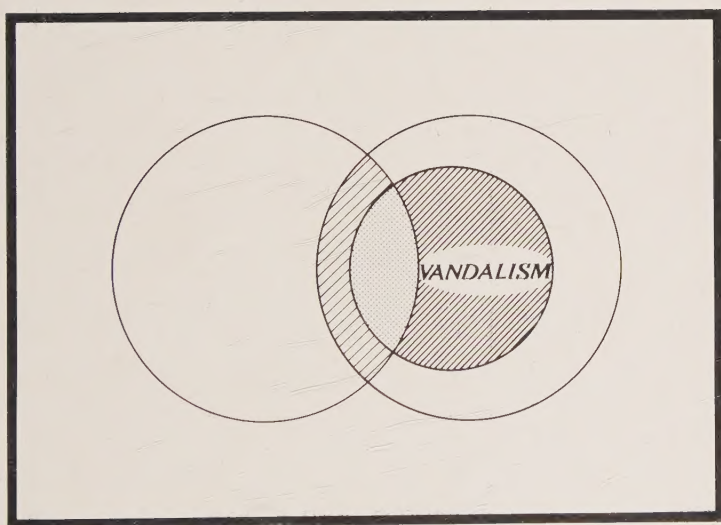


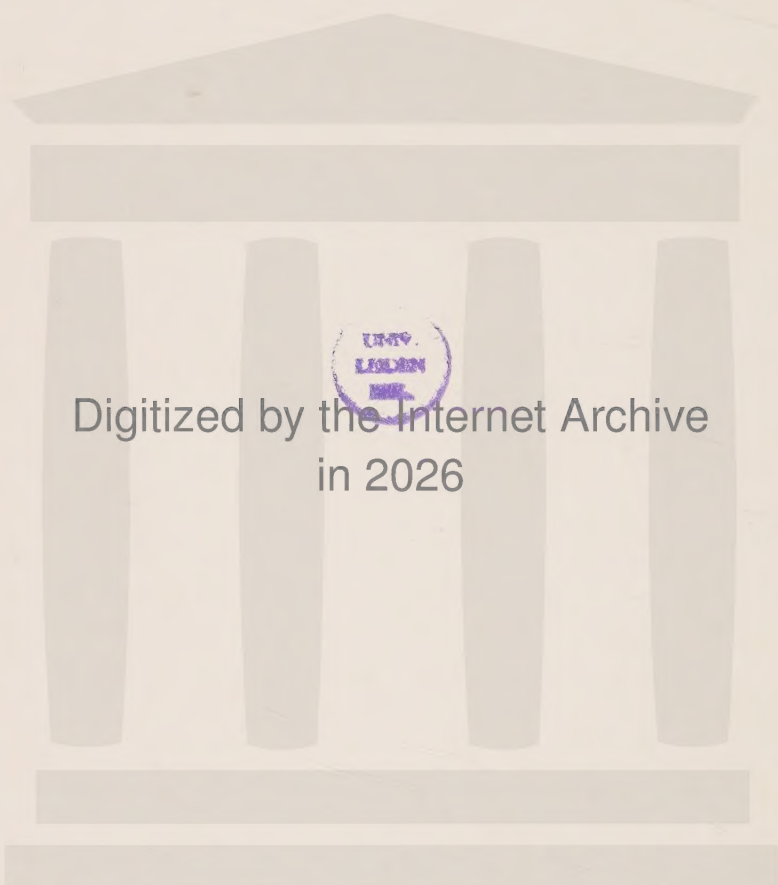
CHARLOTTE NILSSON

VANDALISM
IN URBAN ENVIRONMENTS
AN ECOLOGICAL STUDY



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***VANDALISM
IN URBAN ENVIRONMENTS***

AN ECOLOGICAL STUDY

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1. INTRODUCTION

In Sweden vandalism, or damage to property, has become a major problem. It was given special attention at the end of the 1960's and during the 1970's this being somewhat later than in most countries. A major impulse for the public debate on vandalism, in the newspapers and at conferences, was the construction of large housing projects. In these areas there emerged a concentration of cases of vandalism and other problems, which was a new phenomenon in Swedish society. Traditional, small and homogeneous residential areas where most of the residents knew one another were replaced by areas where the residents came from heterogeneous backgrounds and had different traditions and aims with regard to their place of residence. Differences in norms and traditions gave rise to conflicts, especially concerning children's and adolescent's behaviour and rights in these large new areas. These conflicts can be seen, for example, in letters sent to newspapers during this period (Nilsson 1978). It is interesting to note that these letters generally blame parents for their children's vandalism and do not make the comment that the residential areas themselves might provide opportunities for vandalism by creating a high concentration of young people, few activities etc. The occurrence of visible vandalism, social problems and an emerging geographical mobility in these large housing projects soon gave them a bad reputation and low status. Various projects and campaigns of prevention were started in these areas but even today, after twenty years, their reputations and low status remain largely unchanged.

Vandalism can give rise to feelings of discomfort, depression and discouragement for the residents of high vandalism areas. Vandalism is also regarded as costing society large amounts of money. Efforts have been made to calculate the social costs of vandalism but

the calculations remain uncertain because many of the costs of vandalism are unspecified. Vandalism is a crime with a supposedly high rate of hidden cases, a fact making estimations even more uncertain. It is, however, generally accepted that the costs of vandalism amount to several hundred millions yearly (BRÅ-PM 1983:5). It is also generally agreed that the rate of vandalism is higher in some residential districts than in others and that the incidence of vandalism is greater in business areas than in residential areas.

The aim of this study will be to explore and to analyze different factors which interact with rates of vandalism in residential areas. Why is there a higher concentration of cases of vandalism in some residential areas but not in other areas? Does the incidence of vandalism depend on the population composition, the physical environment, the social environment or on a combination of population and environmental factors? The main task will be, therefore, to elucidate such factors and mechanisms as might be included in causal explanations of the fact that rates of vandalism vary in different residential areas.

The explanations of variance in rates of vandalism in residential areas cannot be made on the basis of the presence or absence of one single variable; it is assumed that causes and explanations must be based on the combination of, and interaction between, environmental factors and conditions in the population.

One must note that the aim of this study is not to explore the general nature and causes of vandalism, nor is it to explain why one category of people commits more acts of vandalism than another category, nor even why it is mostly persons belonging to the lower class who are reported for acts of vandalism, or why it is mainly a male crime, etc. Nevertheless, even if these subjects are not of primary interest for this study, they are of importance in formulating hypotheses of causes for the variance in rates of vandalism in residential areas.

This study is based on a research project on vandalism in residential areas carried out in Malmö in 1976 (financially supported by the National Council for Crime Prevention in Sweden). The indicator of actual frequency of vandalism used is police-reported damage related to number of residents in the areas. The empirical data comprise two kinds, aggregated data and individual data. Emphasis is laid on the aggregated data where the units of analysis are the residential areas in the research district. The individual data



emanate from police-reports where a suspected offender is reported and has been questioned by the police for an act of vandalism committed within the research district during the research year.

First, different categories of vandalism are presented. Thereafter definitions and theories of vandalism are discussed, together with the presentation of the main hypotheses of the study. The ecological method of analysis is discussed in Chapter 3 along with the dependent variable and the validity of using criminal statistics.

The research district and the empirical data of the study are presented in Chapter 4. Chapters 5 to 8 discuss the results of the analyses. Chapter 5 concentrates on the population composition of the residential areas studied; Chapter 6 on the physical environment and Chapter 7 on the social environment. Finally, in Chapter 8 the combination of population and environmental factors as an explanation of variance in the rate of vandalism is analyzed.

2. CATEGORIES, DEFINITIONS AND THEORIES OF VANDALISM

In this chapter different categories and definitions of vandalism will be discussed. Thereafter some theories of vandalism and juvenile delinquency will be examined. The chapter will end with a presentation of the hypotheses to be analyzed in the subsequent chapters.

2.1 The Crime of Vandalism

The word vandalism originates from the Vandals, a Germanic people, who lived and roamed throughout Europe during the fifth and sixth centuries A D. In 455, the Vandals occupied and plundered Rome. Vandalism acquired the meaning "brutal destruction of property" in 1794 from an apologist for the French Revolution who attempted to cast blame for the destruction of works of art during the Revolution upon its enemies. He likened such destruction to the behaviour of the Vandals' sack of Rome (Idzerdo 1954).

In the Criminal Codes, or their counterparts, of many countries the word "damage" or the word "malicious mischief" excludes "vandalism". According to Cohen (1968:872) the term vandalism is an emotive label attached only to certain forms of behaviour and only under certain conditions. On the social level vandalism is an act of destruction of an object representing economic, affective or sacred value, and presents problems for society. The act is also seen as meaningless and unnecessary for society's continued existence. Social reaction to the act depends on the vandal's age, social status, present living circumstances, social situation in which the crime is committed, etc.

Instances of vandalism, which in the past were mainly

concentrated in urban environments, have recently become a social problem in rural environments as well. However, rural vandalism differs in character from urban vandalism by its periodic occurrence. Rural vandalism can reach an extensive range but will often be intensive for a few years at most, and then disappear as the majority of adolescents enter the adult world. In rural areas there is not a continuously large number of young people, as is often the case in urban environments, where vandalism is always present; thus the areas exposed to vandalism change constantly. In The United States rural vandalism has become a serious problem, on a level with urban vandalism (Phillips and Donnermeyer 1982).

Vandalism is often viewed as a minor, less serious misdemeanour which most people have committed at some time during their adolescence. The high concentration of young vandals has resulted in the crime's being considered as a juvenile one. This is also reflected in the studies of vandalism, which almost exclusively concentrate on young people's acts.

Even if vandalism is supposed to be a common crime among adolescents, it need not be, according to Cohen (1968), the first stage of a delinquent career and "vandals" are not necessarily criminals in other situations (see also BRÅ 1982:5, SOU 1973:25). Most adolescents are aware that vandalism is a punishable act. They might not consider themselves law-breakers when doing it, however, but rather regard their activity as a "prank" (Clinard 1974).

Albert Cohen (1964) has drawn attention to the fact that criminality committed by adolescents very often has a non-utilitarian aim while McKay (1949) noticed that in urban neighbourhoods with high levels of lawbreaking, the playlike quality of group delinquency expressed by damage to property was obviously very much present.

Acts of vandalism are more or less accepted on certain occasions (Cohen 1973), such as during certain ceremonies, festivals, holidays, etc., and by certain groups, such as students and children. When young children destroy their own or others' toys it is not labelled as vandalism. For children the act of vandalism most often coincides with the play situation. It is more likely that children damage toys which they do not like or which are of no use to them.

"Furthermore, most of this vandalism seems to grow out of random play activity. In its early stages this activity is inherently neither recreational nor delinquent. Later it may be defined as one or the other, depending upon whether the culmination of the activity is acceptable or unacceptable to the community." (Clinard and Wade 1958:497)

Minor property defacement labelled as vandalism is "writing-off" or graffiti. Everyone has seen graffiti on lavatory walls and billboards, names on walls of buildings, statues or at bus stops. The graffiti found in places where adolescents wait for the bus or train etc., most probably will not be reported to the police. The occurrence of this form of vandalism is almost institutionalized. Even chewing gum stuck under cinema seats and school desks can be considered as minor property defacement. Another form of vandalism which is seldom reported to the police and not commonly known is what Cohen (1973) calls walling-in, that is, the destruction of machines and other property in industry, schools and so on, i.e. in fairly closed settings. According to Taylor and Walton (1971) industrial vandalism may occur very often, and may be quite costly for the company. It can be committed by workers for different reasons, such as for example wanting an extra break, showing dissatisfaction with a situation, etc.

Martin (1961) characterized vandalism as predatory, vindictive and wanton. Predatory vandalism includes the act of, for instance, taking copper drains from a roof and then selling the copper. This is an example of both an act of vandalism and an act of theft in order to receive a benefit.

A wide range of vandalism can be included in the vindictive type. Vindictive vandalism is a result of individuals' feeling of antagonism and hatred toward special individuals or groups. Within this category we find animosity, revenge, intergroup tensions, damage within industries and vandalism to business property etc. (cf. Cohen 1973 below).

The third category of vandalism suggested by Martin is wanton vandalism, which is characterized by its aimlessness and irrelevant origin. In this type Martin includes, on the one hand, the play activity of young children which leads to property destruction. This form of destruction is often excused because the children have not yet developed an understanding of property rights. On the other hand,

included in this category is spontaneous and outrageous destruction by individuals who are "mad at the world", and groups of youth who are in open conflict with society. In the course of wanton vandalism, which appears spontaneously as a reaction to general frustration, toughness, fun and maliciousness, nearly all types of property can be damaged or destroyed.

Stanley Cohen has developed Martin's categories of vandalism somewhat further, for example, the play activity of small children categorized by Martin within "wanton vandalism" is referred to by Cohen as "play vandalism".

One of Cohen's categories of vandalism is ideological vandalism. Ideological vandalism includes industrial sabotage and various political protest actions against government as well as certain multi-national industries. The reason for ideological vandalism is mostly of a political or socio-economic nature. Certain forms of ideological vandalism may be included in the definition of vandalism, such as for instance political graffiti. To point to a certain case as an act of ideological vandalism is of course impossible. Within the cases of police-reported vandalism, one clearly cannot say whether the act was one of ideological vandalism or not. To establish a true motive for the act of vandalism requires, in general, a personal interview with the vandal.

The other categories in Cohen's classification can be considered as more or less "conventional" vandalism. Vindictive vandalism for Cohen, as for Martin, deals with the principle of displaced aggression. When people are not self-confident enough to express dissatisfaction with its cause, they can keep it inside themselves and act it out through vandalism: the act of vandalism can thus be a substitute for violence against individuals. This latter form of violence is often an impossible alternative because the object of one's grievance is inaccessible and an act of vandalism also seems to be a much safer way to take revenge than by having personal contact with the individual himself. The risk of being caught is very slight when committing a crime of vandalism. Examples of this form are graffiti, scratching cars, breaking windows and much of the vandalism committed in schools.

In acquisitive vandalism, the damage is done in the course of, or in order to acquire, money or property (compare Martin's predatory vandalism). Examples of this category are stealing a statue in order to obtain money for the raw material, or damaging a telephone box or a

parking meter to get money.

Tactical vandalism implies damage used to advance some end other than acquiring money or property, and the choice of property to be destroyed is carefully planned. Much ideological vandalism is also tactical. Damaging machinery in an industry to get an extra break for the workers may be considered as an act of tactical vandalism. Other examples include the painting of slogans and other property defacement of this type, with the intention of drawing attention to oneself or gaining publicity for a particular cause. Window-breaking with the intention of being arrested and provided with food and a bed can also be included in this category. According to Cohen, a fair proportion of adults committed to prisons for vandalism can be accounted for by this type.

The category of play vandalism is important when considering vandalism in residential areas. According to Cohen, playing is related to vandalism and is caused by children of ten to twelve years old. There is no real harm meant in such an act of vandalism; it exists because of the "showing-off" element. The motives are competition, curiosity and skill. Most acts of vandalism committed by children probably belong to this category. The play may contain an element of searching for excitement ending in an act of vandalism which was far from the original purpose.

The last category is malicious vandalism. Malicious vandalism not only includes actions of hatred but also actions enjoyed for their own sake. It is important to trace a relation between the act of vandalism and a certain event in the past. There is a general feeling of anger, boredom or frustration, which seems to be able to express itself at any time. Examples of malicious vandalism are throwing life belts into the sea and throwing stones at passing cars. Some forms of practical jokes can also be included in this category. Much of the vandalism committed by gangs when loitering around the streets is of this type.

To summarize, Martin's and Cohen's categories of vandalism have been shown to coincide in some respects but Cohen has also indicated other more unconventional kinds. Table 2.1 shows their different categories of vandalism and how they correspond with each other.

Cohen's categories of ideological and tactical vandalism have no correspondence among Martin's categories. They represent a somewhat unconventional form for cases of vandalism not usually committed by separate individuals but by groups or organizations often for

political purposes.

Table 2.1 Comparison of Martin's and Cohen's categories of vandalism

Martin	Cohen
Predatory	Acquisitive
Vindictive	Vindictive
Wanton	Malicious
	Play
	Tactical
	Ideological

The categories of vandalism can be grouped according to the purpose of the act; was it committed as a conscious act of destruction or was it not, was the purpose to obtain material or immaterial gain or was there no direct interest in receiving any benefit from the act. Table 2.2 shows a typology of Martin's and Cohen's categories of vandalism. The category, wanton vandalism, is considered as being an act which can be carried out both with a conscious and with an unconscious purpose. The distinguishing factor here, if the act of vandalism is conscious or not, is rather a question of the age of the vandal.

Table 2.2 Typology of Martin's and Cohen's categories of vandalism

Purpose with the act	Conscious purpose with the act of vandalism	
	Yes	No
Material gain	Acquisitive	
	Predatory	--
Immaterial gain	Tactical	
	Ideological	--
No direct gain	Vindictive	
	Malicious	Play
	Wanton	Wanton

2.2 The Definition of Vandalism Used in the Present Study

Vandalism may be defined in different ways but a commonly used definition of vandalism was given by Clinard and Wade at the end of the 1950's. By vandalism they meant: "...the deliberate defacement, mutilation or destruction of private or public property by a juvenile or a group of juveniles not having immediate or direct ownership of the property so abused". (Clinard and Wade 1958:494). With this definition they restricted vandalism to offences committed by young people.

Martin, however, did not include the offenders in his definition of vandalism, although his research is more or less limited to juveniles. Martin defines vandalism as "...the offence malicious mischief, specifically the willful destruction, damage or defacement of property". (Martin 1961:4). Richards (1979:486) defines vandalism "...as property damage which would be so identified if it came to the attention of the police".

Another way of defining vandalism is to use the definition and meaning of the crime employed in the Criminal Code. Normally the

Criminal Codes of many countries do not include vandalism as a statutory offence, but most deliberate or malicious damage to property which is commonly referred to as vandalism could be prosecuted under the heading "damage to property". This form of definition is used in many of the English studies of vandalism carried out at the Home Office Research Unit in London (1978).

The definition of vandalism as it is used in this study is; the destruction of or damage to private or public property committed by individuals independent of their age-level and the individuals have no interest in receiving any external material benefit through the act of vandalism. A further limitation here is that the cases of vandalism have not been committed in connection with other crimes.

In Figure 2.1 is shown the field of vandalism which is studied here and how it is related to other forms of damage and to other crimes.

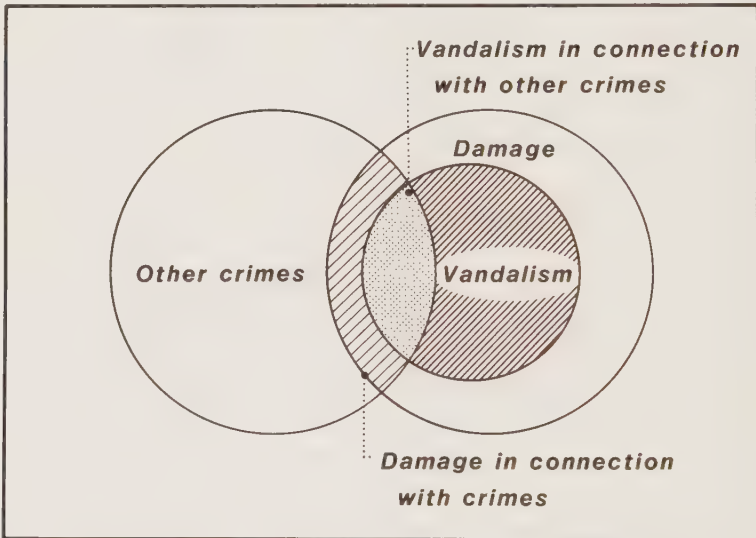


Figure 2.1 The relation between damage, vandalism and other crimes (the Figure shows only the relation between the fields and not the proportion)

Vandalism is viewed as a part of the more extensive concept of damage. Damage includes, for instance, damage by accident or by unforeseen circumstances, carelessness, natural catastrophes, etc. Damage can occur in connection with crime and can itself be considered as a crime, it is then labelled here as an act of vandalism. It can

also be viewed as merely an act of damage without connection with crime.

Only the cases of vandalism which have been committed without another crime and which have been registered by the police authorities as vandalism are included in the research field. This includes damage to motor vehicles, damage by fire, damage to public property, and other forms of damage such as destruction of cycles, windows, doors, dwellings, houses and gardens.

Some common examples of types of vandalism included in the study are damage to cars such as marks on the lacquering, destruction of the windscreen wipers and radio antenna, painting and writing on the cars etc. Such vandalism might occur during evenings and nights around the weekends when adolescents meet and loiter around the streets and squares. Also, minor fires in cellars, referred to as damage, are a common crime, as is the smashing of street lamps and windows in empty houses.

A further example is damage to whole dwellings. In these cases the vandal often has a relation to the person living in the damaged dwelling. A common situation is when a person is refused admittance to a dwelling and in anger destroys doors, windows, or other nearby objects.

A kind of vandalism which is common and often seen in various environments is graffiti. Graffiti ranges from small figures to political messages. Even the police station in Malmö was exposed to graffiti during the research year, one of the messages on the walls being "Stop Vandalism".

Examples of cases of vandalism not coded as such in this study are when the acts are part of other crimes as, for instance, the destruction of doors or damage to furniture during a theft. This kind of destruction is not included in the study because the damage happened as a consequence of another crime or was an accident followed by other forms of lawbreaking. Also the cases of damage to cars where the intention is to steal the radio, are excluded from the study.

Naturally, vandalism can also be the result of differently provoked anger and frustration. The real motivation behind cases of vandalism is often difficult to ascertain, but here the classification of reported crimes used by the police authorities will be followed.

The classification of crimes makes no distinction with regard to the age of offenders; neither does this study. Regardless of whether it is realistic or not to view a two-year old child as a

vandal, such a case was reported during the research year.

2.3 Theories of Vandalism

2.3.1 Introduction

In many studies of vandalism it is difficult to find more general theories explaining why the crime is committed. The empirical studies carried out on vandalism often revolve around a certain kind of vandalism, or acts of vandalism in special situations. From these studies one then tries to construct more or less specific theories. The hitherto existing theories are combinations of psychological, criminological, sociological and ecological ones (Allen and Greenberger 1978; Richards 1979). Attention to vandalism is mainly a 1960's phenomenon, which also explains the lack of more comprehensive studies and construction of theories. The crime of vandalism is, in most cases, considered as belonging to the traditional crimes, and especially to juvenile crimes.

Among the theories of vandalism an interesting distinction can be found. The theories assert either that the causes of vandalism emanate from factors "inside the individual", individual factors, or that the causes of vandalism are located in factors "outside the individual", environmental factors. With this distinction in mind, the programmes and campaigns for preventing vandalism will be given quite different approaches. The individual approach is supposed to provide preventative programmes and campaigns based on indoctrination mechanisms with the aim of changing the individuals' behaviour. The environmental approach, on the other hand, has as its purpose the alteration of factors in the individuals' social and physical surroundings.

The basic distinction made above has led to the formulation of three main hypotheses of why there are variations in rates of vandalism between different residential areas. These hypotheses have been named "the population compositional hypothesis", "the physical environmental hypothesis", and "the social environmental hypothesis", respectively.

The population compositional hypothesis indicates that variance in vandalism rates in residential areas has nothing to do with physical or social environmental factors and mechanisms. The rate of

vandalism is not influenced by ownership of the dwellings or houses, but rather the variance in the rate of vandalism is based on the concentration of vandalism prone individuals. The disposition to vandalize originates from earlier experiences in life. Through different segregation processes in society these vandalism prone individuals become more frequent in certain residential areas than in others. The population compositional hypothesis maintains, then, that a high concentration of individuals at vandalism disposed age levels, membership of ethnic groups and/or low socio-economic status groups are sufficient characteristics to explain the variance in rate of vandalism in residential areas. This hypothesis will be discussed in section 2.4 below.

The physical environmental hypothesis bases its explanations on the physical construction and design of the residential areas. It is claimed that types of housing, high-rise or low-rise, design of outdoor areas, areas out of surveillance etc., influence individuals' likelihood of committing acts of vandalism, regardless of individual proneness to commit the act. What mechanisms in the physical environment are then supposed to provoke individuals to vandalize? How does the design of the physical environment inspire individuals to acts of vandalism?

A mechanism which might be named a social mechanism is when the physical environment through its construction and planning facilitates or restricts surveillance and social control over the residential areas. It is supposed that areas with few chances for surveillance increase the opportunities for vandalization and this might be an essential factor in explaining variance in the rate of vandalism. It might also be said that there is supposed to exist a psychological mechanism in that the physical environment through its design and planning, provides inspiration and provocation for committing acts of vandalism. The physical environmental hypothesis will be discussed in section 2.5, below.

The social environmental hypothesis suggests that residents' geographical stability, traditions, social relations and social control, influence the occurrence of cases of vandalism in residential areas.

Resident stability is supposed to be of paramount importance with regard to the occurrence of vandalism. With very high mobility in residential areas it is difficult to establish stable social relations and informal social control. Residents need at least to be able to

recognize neighbours and to know in which part of the area they live, as well as when a stranger is present in the area. Social contact and informal social control can be seen as positive in most respects, but some residents might find it troublesome to be known by other residents. This is perhaps a problem of greater interest for young residents, because then their opportunities for carrying out "pranks" and acts of vandalism anonymously will be more difficult.

Another mechanism through which the social environment might affect the rate of vandalism is formal social control. Formal social control is most often carried out by the police, by guards or by other persons, for example by those who manage the multi-storey blocks. It is supposed that formal social control will have some effect in preventing children's and adolescent's lawbreaking activities. A problem with formal social control is that it can only be exerted during certain periods of time, and it is difficult to achieve effective surveillance of a larger area.

Traditions and subcultural traits in the residential areas might also be essential factors in explaining variance in the rate of vandalism. One precondition for establishing traditions and stable social relations is, however, a low level of mobility. Among the young residents traditions and subcultural traits can find expression in various activities such as sports and other hobbies, but it can also result in gang behaviour. Simply through their appearance groups and gangs might be apprehended as dangerous by older residents, even if their behaviour and gatherings are harmless. Traditions can also develop among the young residents to vandalize and terrorize other residents and such a group can exert great power over an area and its residents. Residential areas with gang problems might also inspire other adolescents to visit or to settle down in these areas.

Another circumstance which is also relevant to the social environment and is supposed to be essential for the explanation of variance in the rate of vandalism is ownership of the dwellings. Ownership is closely related to the type of dwelling-houses which make up the physical environment, but it is supposed that the social consequences of ownership might influence residents' reactions to the occurrence of vandalism in their area.

Ownership is of three kinds, dwellings can either be owner-occupied, belong to a tenant-owners' association or be rented. An assumption will be, then, that residential areas with mainly owner-occupied dwellings will have a lower rate of vandalism because the

residents have a direct interest in protecting their own property. In residential areas with mainly rented dwellings, however, residents do not have this motive of protecting property from vandalism. Damage caused in these residential areas will only indirectly, through the rent, be felt by the residents. The level of responsibility the residents feel for the dwellings and residential areas is supposed to be reflected in the occurrence of cases of vandalism. The social environmental hypothesis is discussed in section 2.6 below.

2.4 The Explanation of Vandalism Through the Population Composition

Factors originating from the population compositional hypothesis are age structure, nationality and membership of socio-economic status groups.

Sheena Wilson (1980) found in a study of vandalism in two London boroughs results indicating that child density is the single most important variable in explaining variation in the rate of vandalism in residential areas. In residential areas with a high child density, this density seems to be of primary importance for the area's level of vandalism, while in residential areas with a low child density the physical environment, in the form of high-rise houses, appears to increase the residential areas' exposure to vandalism. Wilson notes however that

"the point should be reiterated that child density and numbers of children accounted for only a proportion of the variance in vandalism rates and that other variables (not measured or immeasurable) are also likely to be important."
(Wilson 1980:59)

Vandalism is a crime which is suitable for children and adolescents. It can be committed in the home area, it needs no practice and it takes only a second to carry out. It has been shown that the vandal often chooses to vandalize in his own residential area or in the near surroundings of the home area (Carlsson 1972; Nilsson 1983). A conclusion from this might then be that a residential area's level of vandalism depends mostly on the residents' own disposition to commit acts of vandalism.

In a study of vandalism and status differences vis-à-vis the

association of vandalism to percentage of non-white persons in St. Louis and in San Diego, Bates and McJunkins (1962) and Bates (1962) have noted that the nationality of residents might influence the residential areas' level of vandalism. They used the records of juvenile bureaux as a measure of vandalism. Their aim was to test a hypothesis indicating that delinquency is highly associated with percentage of non-white residents, even when other variables are controlled. Another hypothesis they also tested is that this association does not drop markedly when the percentage of non-white residents increases above fifty per cent. The two hypotheses originate from Lander's (1954) study of juvenile delinquency in Baltimore.

Bates and McJunkins found that the existence of ethnic groups in society is more predictive of non-utilitarian vandalism than the more general social status structure. They also pointed out the fact that these results are not necessarily relevant for other ethnic groups, and their conclusion from the study is rather modest:

"...all that can be concluded from these data is that the hypotheses do not have to be rejected and that the results indicate that this is a line of research worth pursuing."
(Bates and McJunkins 1962:92)

Faris (1948) found that the second generation of immigrants risked becoming delinquent more than the first generation and the native inhabitants because of conditions emanating from culture conflicts, their living under slum conditions and extensive unemployment causing other social problems. A corresponding problem, pointed out by Bohlke (1961), is the tendency for increased delinquent behaviour among the youths of the "nouvelle bourgeoisie" originating from their failure to adopt middle-class values, attitudes and behaviour patterns. There might also be a rejection by the youth of the "old middle-class", and reaction to intra-familial stress emanating from the circumstance that even though their parents have "succeeded", economically, the youth of the "nouvelle bourgeoisie" are not accepted.

In several studies it has been noted that the low social status of residential areas enhances the risk of occurrence of vandalism. Bates and McJunkins (1962), Oscar Newman (1973) and Wilson (1980) have all demonstrated the positive relation between low socio-economic status and vandalism. According to the public statistics it is most

often individuals belonging to a low social status who are reported for acts of vandalism, as well as for other kinds of traditional delinquency. Even if studies of self-reported acts of vandalism point out the fact that middle class youth also vandalize, this does not become visible in the public statistics (Empey and Erickson 1966; Richards 1979). Similarly, Barton Wise (1967) has studied delinquency among girls, and one conclusion from the study was that girls were more active in vandalism and other forms of lawbreaking than the public statistics indicate.

One classical source for delinquency, where psychological and sociological mechanisms may interact, is the home environment and the upbringing of the child. Broken homes, criminality within the family or in the neighbourhood, weak social control and inconsistent upbringing may affect the child's emotional and behavioural experiences, thus making him prone to deviance and to acts of vandalism.

"General disorganization is assumed to result in poor normative controls or weak external constraints, both prompting adolescents to vandalize and affording them the freedom to do so." (Richards 1979:483)

Martens (1981:102) has made a brief summary of Swedish research on social class and socialization. He found for example that the results of the studies indicated that parents of lower-class status, in contrast to middle-class parents, have been characterized as more authoritarian in relation to their children, they were more controlling, and also more insistent upon obedience in various day-to-day interactions. Parents belonging to a lower social status have been found to be less child-centred, less prone to reasoning with the child and also less tolerant of the child's making its own decisions than middle-class parents.

Age inequality and adult-child conflict and peer orientation are the two main issues in delinquency theories of vandalism. Noticeable is the fact that neither of the systems is permanent and adolescents participate in both systems simultaneously; one of the systems is directed and oriented to adults and the other system is oriented towards friends and peers. Theoretically these two systems are treated as separate and either the adults or the peers are chosen as the force behind the interpretation of causes of delinquency

(Richards 1979:484).

According to Clinard and Wade theories of vandalism have concentrated so far on studies of an explorative and descriptive character and not on the testing of hypotheses. They conclude that vandalism is one expression of the frustration felt mainly by adolescent boys in their attempt to achieve autonomy and a satisfying self-concept in a culture where young people's role and status lack a normative structure. (Clinard and Wade 1958:499)

The period of maturation necessary before one may be accepted as an adult is a long process stretching over many years, involving many conflicts. This is a result of the lack of guidelines directing at what age adolescents are allowed to make decisions for themselves and take responsibility for their actions. In Sweden the age of majority juridically and economically is eighteen; to be tried and sentenced by a court, the individual must be at least fifteen. The critical period is between twelve or thirteen and eighteen years of age and during this period there is an obvious risk that adult-child conflicts might lead to acts of destruction both as a way of releasing tensions and as a protest against adult society (cf. Cohen 1964; Nye 1958; Parsons 1959 and Hirschi 1969). Adolescents' exclusion from the adult status system is thought to construct a ground for them to establish alternative status systems within the peer group (cf. Cohen 1964; Cloward and Ohlin 1961; Matza 1964; Werthmann 1976).

The studies quoted here have indicated that the age of the residents, nationality and social class are of importance for the occurrence of vandalism. The population compositional hypothesis indicates that these factors are sufficient to explain variance in the rate of vandalism in residential areas. This would imply that residential areas with a young population composition have a higher level of cases of vandalism than residential areas with an older population composition. Further, residential areas with a high percentage of immigrants are supposed to have more vandalism than areas with a low percentage. Supposedly, the social composition also influences the rate of vandalism, where a high social status is related to a low rate of vandalism and low social status indicates a high rate of vandalism.

According to the population compositional hypothesis these factors are sufficient to explain the variation in the rate of vandalism. Another problem is whether the factors have about the same influence on the rate of vandalism, or if one or two of the factors

are more predictive than the others. Factors such as immigrant density and social status are closely related to one another and, according to Bates and McJunkins they may measure about the same thing. In the next section the physical environmental hypothesis' explanation of variation in the rate of vandalism will be discussed.

2.5 The Explanation of Vandalism Through Physical Environmental Factors

The physical environmental hypothesis suggests that possible explanations for vandalism should be based on the design, planning and construction of residential areas.

Jane Jacobs (1961) gave attention to the problem of anonymity and the increasing problem of delinquency in urban environments in the book *The Death and Life of Great American Cities*. She found that even rather "new" built residential areas were becoming like slum areas and unsafe for the residents. The construction of residential areas which the residents and others apprehend as safe enhances the safety of the area because a well-used area is apt to be safe while a deserted area is apt to be unsafe. According to Jacobs there are three qualities which give a street a safe character. In the first case "there must be a clear demarcation between what is public space and what is private space". The second quality is that "there must be eyes upon the street, eyes belonging to those we might call the natural proprietors of the street". The third condition is that "the sidewalk must have users on it fairly continuously, both to add to the numbers of effective eyes on the street and to induce the people in buildings along the street to watch the sidewalks in sufficient numbers". (Jacobs 1961:35).

Perhaps the best known study of vandalism and other crimes arising from physical environmental factors is Oscar Newman's (1973) study of defensible space. Newman has developed his theory of defensible space from Jane Jacobs thesis. The main issue in Newman's theory is the importance of surveillance of residential areas. A residential area which it is possible to watch over ought to be clearly separated from surrounding areas and other residential areas. It ought to be perceived as a unity by the residents and each house should have a private or semi-private area in front of its door. The

opportunities which exist for the residents to define and exert social control over a certain residential area create an apprehended defensible space, or, to quote Newman:

"Defensible Space is a surrogate term for the range of mechanisms - real and symbolic barriers, strongly defined areas of influence, and improved opportunities for surveillance - that combine to bring an environment under the control of its residents." (Newman 1973:3)

Newman has stated that four characteristics are needed for a residential area to be considered as a defensible space:

- 1.) "The capacity of the physical environment to create perceived zones of territorial influence: mechanisms for the subdivision and articulation of areas of the residential environment intended to reinforce inhabitants in their ability to assume territorial attitudes and prerogatives.
- 2.) The capacity of physical design to provide surveillance opportunities for residents and their agents: mechanisms for improving the capacity of residents to casually and continually survey the nonprivate areas of their living environment, indoor and out.
- 3.) The capacity of design to influence the perception of a project's uniqueness, isolation and stigma: mechanisms which neutralize the symbolic stigma of the form of housing projects, reducing the image of isolation, and the apparent vulnerability of inhabitants.
- 4.) The influence of geographical juxtaposition with "safe zones" on the security of adjacent areas: mechanisms of juxtaposition - the effect of location of a residential environment within a particular urban setting or adjacent to a "safe" or "unsafe" activity area." (Newman 1973:50)

To test the theory, Newman studied residential areas of various physical designs and the opportunities for surveillance of the areas by the residents or by others. He found among other things that the crime rate correlated with buildings' height and type, i.e., high-rise double-loaded corridors and elevator tower buildings correlated strongly with crime rate.

"Large housing projects composed only of high-rise buildings and located in a high-crime area are the worst possible alternative and will produce crime rates four to five times that of small projects of low density located in relatively low-crime areas." (Newman 1973:200)

Newman's study of defensible space and its theoretical issues has influenced several other studies. His work has also raised much criticism, however. Bottoms (1974) found methodological imperfections: for instance, Newman does not adequately account for the socio-economic status variations between the residential areas, nor does he consider carefully possible biases in the crime data.

Wilson (1980) and Mayhew (1979) pointed out that defensible space in Newman's context affords only some small protection from victimization. Another fact is that most of the residents are away from home during the day, which means that the residential area lacks surveillance. Mayhew et al (1980) in a study of telephone kiosk vandalism came to the conclusion that the number of overlooking windows had no direct relationship with the amount of kiosk vandalism.

"The type of "natural" surveillance by people from within their homes which was measured in this study was shown to have only a small effect on the level of kiosk vandalism. This may reflect the fact that those inside their home pay little attention to public targets when the chance of vandalism - perhaps not considered a serious offence - is still relatively infrequent. Another possible explanation is that people may in fact spend rather little time looking out of their windows and as long as little noise is being made vandals may be relatively safe from being seen." (Mayhew et al 1980:72)

The thesis of defensible space stated by Newman (1973) has been tested with various results. According to Mayhew et al (1980) the results would probably have been better if the residential areas were built and designed on the basis of Newman's thesis rather than tested on existing housing areas. The risk exists however that areas with crime prevention measures would only cause crime-vulnerable areas to shift location rather than decrease in number, so that the end result would be static and would not lead to crime prevention in the larger context. Newman (1975) himself has modified his theses to accord greater weight to social factors, particularly the social structure of

the residents.

Another circumstance realized in modern urban society with large multi-storey housing projects is the density of residents in a restricted physical area. The advantages or disadvantages of great cities have been discussed and analyzed in several essays. The disadvantages of the high density residential areas have been given attention by, among others, the classical sociologists Tönnies (1963), Weber (1966) and Durkheim (1968). A consequence of the modern environment is according to them that family and kinship relations and living and working cohesion disappear.

Modern cities are also characterized through their heterogeneous structure of residents (Wirth 1938). Simmel (1964), on the other hand, saw many advantages in the great modern cities which give citizens freedom and opportunities for self realization and development of individual's skills/proficiency. The high level of nervous stimulation makes individuals choose and only realize the impulses which are relevant for themselves. Milgram (1973) has also noted the fact that a high density of people reinforces the appearance of strangers which leads to few personal contacts and an unwillingness to help someone in a crisis, criminal or otherwise problematic situation.

"The superficiality, the anonymity, and the transitory character of urban social relations make intelligible, also, the sophistication and the rationality generally ascribed to city-dwellers. Our acquaintances tend to stand in a relationship of utility to us in the sense that the role which each one plays in our life is overwhelmingly regarded as a means for the achievement of our own ends." (Wirth 1938:71)

The density of residents seems rather to lead to space and social differentiation among people, specialization in occupations, variations in responsibility and influence over work and private situation which implicate differences in economical resources (Daun 1974b). The differences in economic resources largely decide the opportunities of choosing residential area and dwelling alternatives. Residents' dependence on the residential area's outdoor environment is also a consequence of economic resources. Lack of playground, sport, recreation areas and a stimulating surrounding environment might enhance young people's proneness to destructive actions, especially if they also lack other forms of activities, organized or unorganized.

The physical environmental hypothesis suggests that the planning and design, physical opportunities for surveillance, as well as the residential areas' capability of giving the residents meaningful living and recreational opportunities is supposed to influence the level of vandalism. A consequence of this might be that residential areas with a physical environment which suits the residents and satisfies their requirements have a lower level of vandalism than areas without this adaption.

In the next part of this chapter the social environmental hypothesis will be discussed.

2.6 The Explanation of Vandalism Through Social Environmental Factors

The social environmental hypothesis suggests that factors such as geographical stability, traditions, social relations, subcultural factors and social control influence the level of vandalism in residential areas. In an attempt to explain the variation in the rate of vandalism in residential areas based on the social environment some sociological theories of vandalism and theories of criminality emphasizing vandalism as a subtype of juvenile delinquency will be presented.

It is generally supposed that an essential factor for a residential area's level of vandalism is the existence of social control. A necessary condition for establishing social control is assumed to be geographical stability in the area. In a stable area the opportunities for establishing social relations and contact will be easier. If social contact exists between the residents there will probably also be social control. According to Berger (1968) social control refers to the various means used by a society to bring its recalcitrant members back into line, and it is impossible for a society to exist without it. Society's reaction to norm violation takes the form of sanctions.

"A sanction is the consequence of an act that does not result from the content of that act, but from the violation by that act of a preestablished rule." (Durkheim 1965:43)

It is assumed that informal social control is more essential for a residential area's level of vandalism than is formal control. Formal social control can only be carried out in smaller areas during certain periods while informal social control can be carried out by the residents during the whole day and night. A problem, however, is that many residents are at work during the day when most of the children's vandalism in the residential areas is presumably committed.

The large high-rise housing projects with high population densities create opportunities for establishing youth groups. In many of these housing projects most activities are designed more for small children with the result that older adolescents have nothing special to do after school. This fact might facilitate the establishment of groups and gangs which are more or less structured and permanent. The opportunities for pranks and lawbreaking activities will be greater as surveillance as well as the use of informal social control is more difficult in these areas than in residential areas with mainly single houses. Under such circumstances youths can act rather freely in these areas. According to the literature vandalization seems to be a behaviour most characteristic of working class youth even if studies of self-reported delinquency indicate that middle-class youth also commits a noticeable number of crimes. (For a discussion of the validity of self-report studies see for instance Nettler 1978). One consideration is the social pressure or influence a dominate group or even separate individuals can exert on other residents.

"The child does not arbitrarily enter a peer group but selects, and is selected for entry, on the basis of previous socialization experiences. Peer groups, through their various structures of control, can reinforce either conventional or delinquent behavior." (Colvin and Pauly 1983:515)

Questions to consider in this connection include whether middle-class youth is more prone to vandalize as a result of living in an area with a high percentage of working class youth? Is working class youth less prone to commit vandalism in middle-class areas due to the environment or due to the presence of fewer peers with these interests, or are neither of these factors relevant for explaining interest in vandalizing or not vandalizing?

The theories presented in the following part of this section

will illustrate how groups may develop delinquent behaviour and motives, as well as how the social environment might give opportunities to delinquent subcultures. These theories will also reflect the difficulties in deciding whether reported ecological correlations indicate aggregated individual affects and ought to be referred to the population composition or whether they indicate group effects developed from factors in the social environment. The effect of factors in the social environment can be both positive and negative. If a positive effect is indicated one can say that there perhaps exists an acceleration effect. An acceleration effect is demonstrated if a residential area shows a stronger character of, for instance, working-class traditions, rules and behaviour than might be expected from the number of working-class residents in the area. The contrary situation is present if certain factors limit the expected character of the area. In this case one can speak of a restricted effect of the existing factors which are assumed to influence the residential area.

It will be seen in the following how a high concentration of working-class youth establishes groups and gangs with different aims and motives. In this situation it is assumed that the social environment provides the opportunities for creating subcultures as a result of traditions, social relations and contacts between the residents, as well as opportunities for the existence of social control or lack of it; all of which give the prerequisites for children's and the adolescents' activities in residential areas.

The following studies are mainly based on the situation in The United States and are not always comparable with the Swedish situation. For Swedish conditions the near-group described by Yablonsky and not the kind of groups described by Cohen, Miller, Cloward and Ohlin etc (see below) are supposed to be the most common kind of groups in the residential areas.

Theories of juvenile delinquency and subcultures received renewed attention in 1955 when Albert Cohen (1964) published *Delinquent Boys*. According to Cohen, delinquent subcultures were a result of working-class boys' status problems in respectable society. Essentially these problems arose because of a failure to meet the criteria of the middle-class status system. The subculture then established would be more suited to the abilities of the boys and would provide alternative status criteria.

Cloward and Ohlin (1961) developed an alternative theory of

subcultures, indicating that adolescents who establish delinquent subcultures "have internalized" middle-class values. They summarize the hypothesis in the following way:

"The disparity between what lower-class youth are led to want and what is actually available to them is the source of a major problem of adjustment. Adolescents who form delinquent subcultures, we suggest, have internalized an emphasis upon conventional goals. Faced with limitations on legitimate avenues of access to these goals, and unable to revise their aspirations downward, they experience intense frustrations; the exploration of nonconformist alternatives may be the result." (Cloward and Ohlin 1961:86)

According to Miller (1958), gang delinquency is seen as a product of the structure of lower-class life, the long-established, durable, traditions of lower-class life, rather than as Cohen states, as a result of responses to conflicts with middle-class values. Miller describes the lower-class system as including "trouble", "toughness", "smartness", "excitement", "fate" and "autonomy".

Critics of Cohen's and Cloward and Ohlin's theories have indicated that much gang delinquency in working-class areas is spontaneous and unstructured, with shifting group membership, lack of group identification, etc. Yablonski used the concept "near-group" as a description of the delinquent gangs instead of "group". A near-group is characterized as a group with diffuse role definition, limited cohesion, impermanence, minimal consensus of norms, shifting membership, disturbed leadership and limited definition of membership expectations. (Yablonsky 1959:109)

Kitsuse and Dietrick have made a systematic evaluation of Cohen's theory. Their interpretation of Cohen's idea of working-class boys' orientation to middle-class values is rather an expression of status frustration and ambivalence, but this condition of ambivalence towards the middle-class system is also present among middle-class boys and not unique for the working-class or grounds for establishing delinquent subcultures. (Kitsuse and Dietrick 1959:212)

Cohen viewed juvenile offenders as non-utilitarian in their delinquency, but Kitsuse and Dietrick remarked that real-life delinquents are more businesslike in action. "There is no absence of rational, calculated, utilitarian behaviour among delinquent gangs, as they exist today" (Kitsuse and Dietrick 1959:213). Further it can be

noticed that versatility rather than specialization characterize the gangs' deviant behaviour. The delinquent subcultures outlined by Cloward and Ohlin are uncommon, according to Gibbons (1981), and their theory of low status youths' disinterest in middle-class values has not yet been confirmed.

The adult-child relationship and peer orientation might explain the high percentage of vandals among adolescents and offer a possible answer to the question: Why are adolescents more prone to commit acts of vandalism than older individuals? In his study of adolescent students in Richmond, California, Hirschi (1969) found through self-reported data, that most delinquent youths showed less attachment to parents, school and school teachers, peers and conventional activities and less positive attitudes toward conformity. These delinquent adolescents had committed relatively petty misdemeanours. Hirschi also found that boys from all social class levels reported about the same degree of involvement in these acts.

In the criminal statistics it is documented that, with regard to traditional criminality, individuals belonging to the low social status levels are most often reported for lawbreaking. Studies by, for instance, Shaw and McKay (1930, 1969), Faris (1948), Clinard and Wade (1958), Miller (1958), Whyte (1961), Cohen (1964), Carlsson (1972), Jonsson (1971) have all indicated the low social status level of delinquents. In the case of vandalism, this crime is also mainly viewed as a crime among low social status youths, although several studies have analyzed middle-class youths' vandalism and other forms of juvenile delinquency and these results point to the fact that vandalism is an increasing problem also among middle-class adolescents. In her study of self-reported vandalism among junior and senior high school students living in a middle-class suburb of a large midwestern American city, Richards (1979) found that acts of vandalism were more common among junior high students than among senior high school students. Middle-class vandalism is not something which happens a few times during the period of youth, and it does not seem to lack rationality. Richards noted the fact that for middle-class students, vandalism can be seen as a useful way of establishing positions within peer hierarchies.

Cohen explained the increase of middle-class delinquency by structural changes in the society.

"Middle-class youth turn increasingly to hedonistically oriented 'youth cultures'. These youth cultures are not necessarily delinquent but they are generally characterized by pleasure seeking and emancipation from adult controls. We have middle-class 'corner-boys'." (Cohen 1957:206)

The structural conditions of society are also the basis for Scott and Vaz's analysis of middle-class delinquency. They state that the origin of middle-class youths' delinquency must be sought in the prominent, culturally esteemed patterns in which they live.

"...through knowledge of the structure and content of the legitimate youth culture and its structural connections to the community within the larger historical transformation taking place." (Scott and Vaz 1963:222)

Bohlke (1961) expected that middle-class delinquency would increase in the future. Barton Wise (1967) also indicates the increasing problem of crimes and vandalism among middle-class youth and especially on the part of females; the latter being probably much more extensive than that which is documented in the official statistics.

Empey and Erickson (1966) in their study of self-reported delinquency among 180 white males, aged fifteen to seventeen years in Utah, found little variation in the number of offences committed by youths from different social class backgrounds. Interestingly, however, middle-class juveniles were reported to have committed more serious acts than were lower-class youngsters. The low-status boys remained significantly higher than middle-status respondents only on the offences of buying alcohol, using narcotics, fighting and defying parents. "Otherwise, ... middle-status boys who eventually become probation violators, or were incarcerated, were the ones who seemed to have been extremely delinquent" (Empey and Erickson 1966:222). The study included twenty-two different offences such as traffic offences, general and serious theft (classified by the worth of the stolen objects from two dollar to more than fifty dollars), defying people, property violations, running away and offences against persons. The issue of why, in the official statistics, the vandal belongs mostly to

a low social class even though in actuality middle and upper social status levels vandalize has not been resolved.

To summarize the explanations for vandalism proposed by various researchers one might briefly state that the act of vandalism is used as a way of gaining status among peers, as a protest and as revenge against parents, school, society and also (which might be of great importance) for the sheer enjoyment experienced while committing the act (cf. Allen and Greenberger 1978).

Another essential circumstance also worth discussing is the maintenance of the large housing projects. The maintenance of the large housing projects in many respects has been concentrated in a central administration. This has resulted in the residents having few if any personal contacts with the persons doing repairs and other maintenance in the residential areas. Maintenance will also normally be carried out during the day when residents are at work. The situation is somewhat different for residents living in owner-occupied dwellings. They must more directly take an active part in the maintenance of dwellings. The most obvious difference between rented dwellings and the others, however, is that the rebuilding, repair and maintenance of the dwellings is an investment for the owners while this is not the case for residents who rent dwellings. Residents in owner-occupied dwellings have the opportunity of selling and of thus being compensated for their work, as well as for any repair charges incurred.

One assumption is that individuals appreciate, and are more careful with, property they themselves own than they are with public property. A possible conclusion, then, might be that in residential areas with mainly owner-occupied dwellings the rate of vandalism is lower than in residential areas with mainly rented dwellings. In residential areas with owner-occupied dwellings an act of vandalism implies that house-owners would incur self-expense by causing destruction.

It is further supposed that in residential areas with mainly owner-occupied dwellings social control will be more extensive than in areas with only rented dwellings. It is also interesting to speculate whether the existence of social control is for certain people a motive for choosing or not choosing a particular area.

In this section it has become obvious that it will be difficult or even impossible to decide if the effects of vandalism are results of an aggregated individual effect or a group effect. Where an

aggregated individual effect exists we have an example of the population composition hypothesis, while a group effect indicates the operation of the social environment hypothesis.

2.7 Summary

Explanations of variation in the rate of vandalism in residential areas proposed in earlier studies have been grouped into three main hypotheses; the hypothesis of the population composition, the hypothesis of the physical environment, and the hypothesis of the social environment.

The hypothesis of the population composition suggests that variance in the rate of vandalism depends on the individuals' differential proneness to commit vandalism. The individuals' characteristics in combination with segregation mechanisms explain the concentration of vandalism in certain residential areas (2.4).

The hypothesis of the environment proposes that the surrounding physical and social environment influences individuals to vandalize. The physical environment influences individuals to commit vandalism through the planning and design of the residential areas (2.5). Social control, contact and geographical stability are central factors in the social environment (2.6). A circumstance to note is that social class and other individual characteristics can also be considered as social environmental factors making it difficult to distinguish between aggregated individual effects and group effects.

The following chapters will concentrate on analyses of the empirical data of this study according to the hypotheses indicated above. In Chapter 5 the population composition is discussed. Chapter 6 discusses the physical environment, and Chapter 7 the social environment. The chapters begin with a description of the empirical data. Thereafter the data are analyzed by means of the multiple classification analysis technique. Firstly a description of the research method used and some of its methodological implications will be presented. This will be followed by a short description of Malmö and its vandalism compared to that of the rest of Sweden.

3. THE RESEARCH METHOD AND THE CONSTRUCTION OF THE DEPENDENT VARIABLE

3.1 The Ecological Method of Analysis

3.1.1 Introduction

The use of ecological correlations in analyzing social circumstances is not a new method but was used early by Faris and Dunham. They studied, for example, the urban environment's influence on individuals' mental health in Chicago during the 1920's. Faris and Dunham (1960) found that mental disorders, such as schizophrenia and social problems occurred most frequently in residential areas with a high number of immigrants living under poor economic and environmental conditions. It was commonly not the first generation immigrants who risked becoming delinquent but the second generation. These people were caught between two often conflicting cultures, their parents', representing the old country, and their friends', often typical of the new country. Within this situation of cultural conflicts and environmental slum conditions, social organization had lost the function of informal social control for the prevention of delinquent behaviour among adolescents and other residents (Faris 1948).

One early study of delinquency and gang behaviour was carried out by Thrasher (1963) during the 1920's in Chicago. He studied 1313 gangs through participant observations. Thrasher, who was influenced by Cooley and the Chicago School, tried to demonstrate how an observer could study the mobile and unpredictable behaviour of groups in a natural setting (Renshaw 1981). If one compares the method used by Thrasher with Whyte's (1961) study of the gangs of "Cornerville", Thrasher's documentation of the gangs is unsystematic and incomplete

in essential parts. However, the Chicago School was not explicitly interested in formulating sociological theories but rather in documenting real dynamic urban life.

The sociologists Shaw and McKay (1969) used juvenile court referrals as an index of an area's level of delinquency. Residential areas with a high degree of delinquency among their residents were described as having poor housing conditions, poverty, mental disorders and adult criminality among the residents as well as a high geographical mobility. These conditions caused a lack, not only of social stability, but also of normative consensus and social cohesion among the residents and within these areas no informal social control existed to prevent further delinquency. The urban environment provided many of the prerequisites for deviance such as anonymity, lack of ties, and impersonal relationships. Shaw and McKay found that the areas with a high degree of delinquency were located near industrial areas and in the transition areas around the centre of the city. Another condition they pointed to was the circumstance that residential areas with high adult delinquency showed a high frequency of school truancy among children and adolescents.

A general conclusion of ecological studies of criminality is that the rate of delinquency is high in the centre of the city and in residential areas with bad/inferior, deteriorating, socio-economic conditions. Judith Wilks has given attention to the relation between urban socio-economic structures and delinquency and the need for significant interpretations of the data:

"... whether concentric zones, individual census tracts, or census tracts grouped into social areas are investigated, the most frequent finding is that offenses and offenders tend to be concentrated in areas characterized by low income, physical deterioration, mixed land usage, non-traditional family patterns (e.g., homes broken in some manner and/or high percentages of single males, and/or women employed in the labor force), and racial-ethnic concentrations which appear to produce low neighbourhood cohesion and low integration of the neighbourhood into the larger society. This statement is, of course, a gross oversimplification of the interrelationship of area attributes and crime and delinquency rates. As noted previously, in order to predict and explain an area's crime rate, it is necessary to be aware of the existing social structure, ongoing social processes, and the population composition of the area, and the area's position within the

larger urban and societal complex. It is only by taking such a perspective that we can:

1. gain an understanding of why the economic, family, and racial composition of an area are associated with offense and offender rates, and
2. understand why the nature of the association between these area characteristics and offense and offender rates vary over time and over different cities." (Wilks 1967:149)

3.1.2 The Ecological Method of Analysis as Used in This Study

The ecological method of analysis is based on studies of units on a higher level than the individual. The data represent a measurement of the distribution of a quality or a character of certain community areas or of territorial unities (Dogan and Rokkan 1969).

In the preceding chapter three hypotheses; the population composition, the physical environment and the social environment were discussed. The problem will be to decide if one or more of the hypotheses can be verified through the available data in the study.

This is supposed to be a problem, since the hypotheses demonstrate relations both on the individual level and on the group level while the data used are only on the ecological level. An ecological correlation can be the result of either (1) an aggregated individual relation, (2) a pure group relation, or (3) a combination of an individual and a group relation (cf Davis, Spaeth and Huson 1961; Lindberg 1967).

Tannenbaum and Bachman (1964) pointed out the problem of the difficulty of knowing if the ecological correlations really indicate a group effect or if the results instead describe an individual effect. Another problem is the reverse, where a supposed individual effect indicates a group effect. This was a problem with Blau's (1960) well-known method of analyzing the influence of the surroundings on dichotomized groups. Blau tried to isolate effects which did not depend on individual characteristics but on the present norm of the group through studying one group with this special characteristic and one group without it.

"The structural effects of a social value can be isolated by showing that the association between its prevalence in a community or group and certain patterns of conduct is independent of whether an individual holds this value or not." (Blau 1960:180)

Davis, Spaeth and Huson (1961) used roughly the same method with dichotomized groups as Blau but they made a more specialized division of the groups according to their attribute.

"In our situation, there are two basic axes of comparison: (a) We may compare members of a particular group who belong to different sub-classes of the independent attribute, and (b) we may compare members of the same sub-class who belong to different groups. The end result will be a set of probability or percentage differences, one set of within-group differences and a second set of between-group differences." (Davis, Spaeth and Huson 1961:217)

The hypothesis of the population composition suggests that there is a relation between the background characteristics of the individuals and proneness to vandalize i.e. that vandalism might best be seen as an individual effect without any relationship with the environment.

One cannot conclude from an ecological correlation that there will exist an individual correlation or not. This can result in an "ecological fallacy". The term was coined by Robinson, and it refers to the difficulties in generalizing from ecological correlations to individual correlations.

"While it is theoretically possible for the two to be equal, the conditions under which this can happen are far removed from those ordinarily encountered in data. From a practical standpoint, therefore, the only reasonable assumption is that an ecological correlation is almost certainly not equal to its corresponding individual correlation." (Robinson 1950:357)

It is, in other words, not possible to draw conclusions from ecological correlations about individual factors or even from the

existence of individual correlations. In addition the ecological correlations tend to increase with the size of the geographical unities for which the correlations are calculated (Rosengren and Arvidson 1983). (For a discussion of different ecological fallacies see Alker (1969) and of the ecological method of analysis, Borgatta and Jackson (1980)).

The studies referred to all have a different design to that which is employed in this study. In the studies presented it was perfectly possible to distinguish between individual and group effects. The design of this study does not permit us to make such a clear distinction. One problem is that of the mechanisms which direct individuals to choose one residential area rather than another. The problem of selection of residents results in considerable uncertainty even if a contextual analysis could be carried out. One can assume that certain groups apprehend some residential areas as more attractive than others. The grounds for selection can include socio-economic status or desire to live near one's ethnic group. Factors such as opportunities for carrying out interests and hobbies and the desire to live near persons with these interests may also be important. It is also possible that persons with social problems in the form of criminality, alcoholism and drug-use will live in the same residential areas. This concentration can give a residential area a higher level of vandalism than that which is to be expected from environmental and population composition factors. Because of these selection mechanisms it will be difficult to decide if a group or an individual effect is indicated. Lindberg (1967) found in his study that the selection mechanisms were more obvious than was at first expected. This problem is probably also relevant for this study and makes the interpretations of the data more difficult and unsure.

Despite these problems it is assumed that the results of this study will be valuable in explaining variance in the rate of vandalism. The ecological correlations will be compared with correlations of the individual data and with other studies. If both the ecological and the individual correlations have the same sign we may assume that an effect exists. It will, however, be difficult to decide whether the ecological correlation indicates a group effect or an aggregated individual effect. It is obviously also possible that the ecological correlation shows both a group effect and an individual effect.

From the methodological studies of ecological data it has become apparent that great care is needed in the interpretation of the analysis of empirical data. This is of special importance if the aim is to choose between factors based on population composition and the social environment. As this study is based only on ecological data it will not be possible to make such a distinction here. A further fact to consider is that traditions and natural selection mechanisms might be the real causal factors verifying the choice of the physical environment as well as, in all probability, the social environment.

3.2 The Dependent Variable

In this study of vandalism police-reported cases are used as an indicator of the real number of cases of vandalism in the residential areas. The choice of this indicator of the residential areas' level of vandalism is made due to the difficulties in finding another more suitable method to measure the rate of vandalism for a large area such as a city.

As already indicated, the real rate of cases of vandalism is assumed to be quite large. The aim is, however, not to estimate the residential areas' real figures of cases of vandalism from the basis of the reported cases, but to use these reported cases as an indicator of the residential areas' level of vandalism. Other studies, where official statistics have been used as an indicator of the crime's actual figure, have shown that in regard to traditional criminality the official rates of vandalism can be used as a sufficient indicator of the crime's actual figure (cf. Persson 1980; Gibbons 1981).

The assumption made is that residential areas with a high frequency of police-reported cases of vandalism in relation to the area's number of tenants will also have a high rate of unreported cases of vandalism and vice versa: that areas with few reported cases of vandalism will have proportionally, a lower actual level of cases of vandalism as well.

One might assume, however, that in residential areas with a high share of cases of vandalism, the tenants develop a greater tolerance towards vandalism. This might result in the fact that in residential areas with a high rate of vandalism, a proportionally lesser number of cases is reported to the police authorities than in

residential areas with a lower actual rate of vandalism. Despite this possibility, the rate of vandalism will still function at the minimum as a correct variable on the ordinal scale level. However, this assumption will be uncertain if one presumes that other circumstances, such as sub-cultural population traits could also influence the inclination to report acts of vandalism. Such external conditions affecting residents' inclination to report vandalism cannot be excluded, but it has been assumed here that it would not radically affect the use of the police-reported cases of vandalism as an indicator of the actual rate of vandalism in residential areas.

An illustration of how the cases of vandalism are concentrated in special areas in the research district is indicated in Map 3.1. Map 3.1 shows the relation between the number of police-reported cases of vandalism and the number of inhabitants within each area. The areas are divided into four groups according to the frequency of vandalism: the zero vandalism group with no reported cases, the low vandalism group including up to five reported cases of vandalism per thousand residents, the intermediate vandalism group with between five and fifteen cases, and the high vandalism group which had more than fifteen police-reported cases of vandalism per thousand residents during the research year.

This division is represented in a slightly different manner in the Map, however. The statistical areas with more than one hundred residents (housing areas), belonging to the high vandalism group are marked with darker diagonal lines while those with one hundred or less residents (industrial or commercial areas) which belong to the high vandalism group are marked with lighter diagonal lines. The shading areas belong to the intermediate vandalism group and finally the low and the zero vandalism groups are grouped together and indicated in white.

Map 3:1 The Research District – Malmö

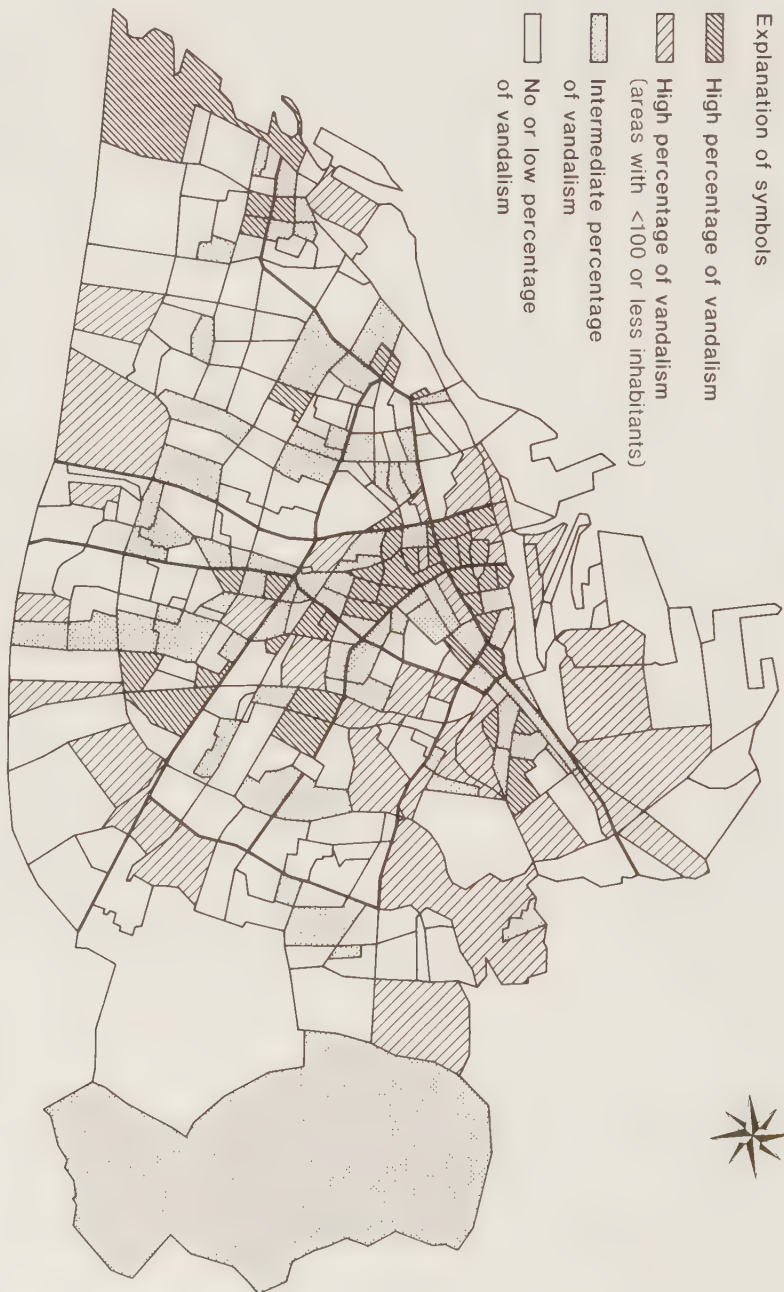


Table 3.1 The distribution of statistical areas into the different vandalism groups (cf. Table 4.2)

Vandalism groups	Number of areas
Zero	80
Low	83
Intermediate	69
High	86
Total	318

Areas with one hundred or fewer residents are found only in the high vandalism and in the zero vandalism groups. In the zero vandalism group they are not especially distinguished from the other low and zero vandalism divisions. In total 93 statistical areas have one hundred or less residents: 42 of them are in the high vandalism group and 51 in the zero vandalism group.

According to the Map, the highest concentration of cases of vandalism occurs in the residential areas in the centre of the city and in the industrial area to the north, although other statistical areas with high vandalism frequencies are scattered throughout the city. The residential areas with high levels of vandalism consist mainly of multi-storey blocks constructed mostly in the 1960's and 1970's. Relating the cases of vandalism to the number of residents in the commercial areas might be considered misleading, but by choosing the level of more than one hundred residents, the analyses of the commercial business areas are separated and excluded from those of the areas solely functioning as residential areas.

Notwithstanding the supposed high rate of hidden vandalism one may assume that the number of reported cases of vandalism on the aggregate level is presumably an acceptable approximation of the number of actual, visible cases of vandalism in different urban environments. The data on the reported vandals, however, are probably not representative for all vandals. A suggestion is that the unreported vandals have a lower age structure than the reported

vandals due to general resistance to reporting young people to the authorities. This circumstance has also been demonstrated through studies of self-reported delinquency (Martin 1961; Cohen 1973, cf below). It should also be borne in mind that criminality among youths is not only restricted to the lower social status levels. Middle class youths also commit crimes (Richards 1979; Empey and Erikson 1966, cf below).

3.3 The Validity of the Dependent Variable

The use of official criminal statistics has been subject to discussion in the criminal literature. Different traditions have been developed concerning how to consider criminal statistics. In this section three main views of using the criminal statistics will be discussed.

One group is represented by those who completely reject the official criminal statistics. These criminologists and sociologists, for instance, Taylor, Walton and Young as well as Platt and Chambliss, began with a "new criminology" (Taylor et al 1975). The new critical criminology emerged from the criticism of formalism and pragmatism in sociology. This criticism was formulated earlier by C. Wright Mills (1959) and others, becoming intensive during the 1960's. This resulted in many sociologists' turning their interests from empirical research to theoretical studies. The official statistics were seen as the product of the authorities and developed for non-scientific purposes. Later the "criminal justice system" and the official statistics were analyzed from a Marxist class perspective and studied in relation to the society's class-structure and class conflicts (Taylor et al 1975:33).

Another group of scientists used official crime statistics as an acceptable basis for empirical data but these statistics were not viewed as simple indicators of the real number of offences and of criminal development in society. This view of official crime statistics is promoted, for instance, by Kitsuse and Cicourel (1963), Cicourel (1968), D. Black (1970), and in Scandinavia by Christie (1965). They regard the official crime statistics as an indicator of different organizational processes in society. The official statistics are more a result of the condition between formal and informal social

control than a measure of real criminality. The crime statistics reflect more the efficiency of formal social control than the quantitative and qualitative implications of society's criminality (Kitsuse and Cicourel 1963, Christie 1975).

The third group is represented by those who, with the help of sophisticated arrangements and improved methods of interpretation, use the official crime statistics as at least an acceptable approximation of the real structure of criminality in society. This group has tried to improve the reliability, and facilitate more objective interpretations, of the official statistics. In Scandinavia this group is represented by Verkko, Törnudd and Asomaa (1973, 1974) in Finland; Hauge, and Wolf (1971, 1974) in Denmark; Elmhorn (1965), and Persson (1976, 1977, 1980) in Sweden.

In this last group three main techniques are used to study hidden criminality: interviews or questionnaires, observational studies and systems analyses. Within the technique "interviews and questionnaires", self-reported studies on the individual level have been used to approach a more complete measure of the crime variables (cf Sveri 1965). One purpose of the self-reported studies is to estimate actual individuals criminality. On the aggregate level, victimization studies or victim surveys have increasingly been used. With this technique one tries to measure both reported and unreported crime.

The second technique includes recording behaviour through direct, indirect or participant observation. The researchers have tried to disengage themselves from their dependence on interviews with persons who are "unwilling", "unknowing" or hostile towards taking part in interviews, and instead employ the research technique of observation.

The third technique is called systems analyses and can briefly be described as an analysis of various selection factors which influence the extent and structure of unreported criminality, as for instance the opportunity structure of crime or changes in insurance coverage for property crimes. This latter technique is seldom used and of the studies done, the chances of generalizing from them are restricted due to different police practices both within a country and between countries (Persson 1980).

There are at least four possible reasons for a crime not appearing in the official statistics: (1) the crime is not

discovered/detected; (2) the discovered crime is not reported to the police; (3) the reported crime is not recorded by the police; and (4) the crime recorded by the police does not appear in the official criminal statistics because of a faulty handling of the information (Persson 1980:21).

3.4 Statistical Techniques

The main analytical technique used in this study is analysis of variance (ANOVA) and associated multiple classification analysis (MCA). Hedinsson (1981) justified the choice of MCA techniques thus:

"The choice of the MCA technique is based on its capacity of being able to cope with central problem areas encountered in our empirical analyses. First, we wanted a technique that allows extensive controlling procedures, thereby making as explicit as possible the independent or unique effects of each of the independent variables under study. Second, we needed a technique which would admit an examination of linearity in the relationships between the dependent and independent variables. Finally we wanted to establish the overall explanatory power, or in other words, the additive effects, of many variables taken together. The SPSS-MCA program (Kim and Kohout 1975) was used to achieve these aims." (Hedinsson 1981:4)

The ANOVA-MCA program provides analyses of variance for up to 5 factors (being non-metric, categorical independent variables) with provision for adjusting for up to 5 covariates (being metric independent variables). The MCA table produced by the program displays the results of the analysis of variance. If two or more factors are inter-related the table enables us to know the net effects of each variable when the other factors are controlled for.

In the MCA table (see e.g. Tables 5.6 and 8.5) the grand mean of the dependent variable is first reported at the top. The first column in the table presents the unadjusted mean values for each category expressed as deviation from grand mean. This column also presents the Eta coefficient. The Eta coefficient is derived from raw data and is an unadjusted, non-linear correlation measure which expresses the variation in the dependent variable on the independent variable (the correlation is therefore not adjusted for the other factors and covariates). The Eta coefficient is based on the dissimilarity of

unadjusted means of the dependent variable within the categories of the independent variable. These unadjusted means of the dependent variable are however not presented in the MCA table.

The second column presents the adjusted mean values for each category, expressed as deviations from the grand mean, when adjustment has been made for all other independent factor variables included in the analysis. The adjusted mean values are important since they give information concerning the linearity or curvilinearity of the relationships so that heed should be taken of them (Roe 1983).

Where the analysis contains covariates (Table 8.5) the adjusted mean values presented in a third column of the table are those which have been adjusted for both independents and covariates. The covariates are used to increase the power of the controlling procedures and also to maximize the explained variance in the dependent variable. Following the column with the adjusted mean values the Beta coefficient is presented. The Beta coefficient is the adjusted correlation measure, expressing the covariation remaining after controls for other independent variables. The Beta coefficient is equivalent to a standardized regression coefficient. Where the MCA table also includes covariates a second Beta correlation measure is presented which is the correlation remaining after controlling for both other independent variables and covariates. A comparison of the original Eta with Beta(s) indicates how much the relationship is affected by controlling for the other factors and covariates.

Finally at the bottom of the table the multiple R^2 coefficient is presented. The R^2 coefficient is a squared correlation coefficient and indicates the overall relationship between the dependent and independent variables. R^2 represents the proportion of variance explained by the additive effects of all the independent variables and covariates.

The SPSS-ANOVA program provides a test of significance of the independent variables and this is presented in the MCA tables. It is obvious that the results of the tests of significance depend upon sample size. The independent variables are trichotomized and the division has been made with the aim of having one rather low category and one rather high category. This has meant that the limits for the intermediate category sometimes have been very wide. An attempt has been made to obtain about the same size of areas in each category, i.e. as near as possible to 73/74 housing areas or 33%. The variables are

also dichotomized which means, for instance, that a low percentage of multi-storey blocks in residential areas indicates a high percentage of single houses, and a high percentage of households with low income level implies a low percentage of households with high income level etc.

Emphasis is also laid on the strengths of Eta and Beta coefficients. The interpretation of the relative strength of the correlation coefficients will follow the practice of characterizing a correlation coefficient .40 or higher as strong, .30-.39 as rather strong, .20-.29 as moderately strong, the figures .13-.19 as weak, and will interpret a correlation below .13 as extremely weak.

A problem with the ANOVA-MCA approach is that posed by interaction between the factors and the covariates and between the factors themselves. If this interaction becomes strong the MCA scores will be meaningless. It is therefore important to check the significance of interaction effects (Kim and Kohout 1975:410). In the cases where a significant interaction is demonstrated in the MCA tables it will be discussed in connection with the analysis.

The multiple classification analysis technique is not the only possible method of analyzing the kind of data used in this study. Another method could be the multiple regression analysis technique. The multiple regression method is a general statistical technique through which one can analyze the relationship between a dependent or criterion variable and a set of independent or predictor variables (Kim and Kohout 1975). It is possible that this program could have been more suitable in some cases than the technique used.

Other statistical techniques used in the study are cross-tabulation and the subprogram BREAKDOWN. The program provides a simple technique for examining the means and variances of a criterion or dependent variable among various subgroups in a sample or total population (Nie et al 1975:249-266). A description of the aggregate data is made through the program SPSS-BREAKDOWN and the data of the individuals reported for acts of vandalism are provided by simple frequency or cross-tabulation techniques.

4. VANDALISM IN THE RESEARCH DISTRICT AND IN THE REST OF THE COUNTRY

In this chapter the research district and the data concerning vandalism will first be presented. Thereafter the distribution of the cases of vandalism in the research district will be discussed. The chapter will end with a discussion of vandalism in the Swedish context in general.

4.1 The Research District

The empirical data are taken from Malmö, the third largest city in Sweden. The number of residents in the city has decreased from about 265,000 residents in 1970 to about 230,000 residents in 1980. Those people who moved out of the city often settled down in surrounding rural and/or suburban districts. The city is situated in the south-west of the country and is bounded on the west side partly by the sound, The Öresund, which divides Sweden and Denmark. Malmö is mainly an industrial city with large companies in the shipping trade (there is a large harbour area in the north of the city) ship building, international construction and brewing.

The research district and the city are the same except for a few housing areas to the south of the city: these areas were still under construction when the study was carried out during 1976. The city was chosen because it has the character of a big city and it has a criminal level comparable with the two largest cities in Sweden, Stockholm and Gothenburg. During 1976, Stockholm had .31 reported crimes per inhabitant, Gothenburg had .17 and Malmö had .26. The corresponding figure for the whole country is .09 reported offences.

The city is subdivided into 318 statistical areas. The division

of the city is made by the municipality, and all the public statistics refer to this division. Of the total number of areas, 225 have more than one hundred residents. In the analysis of the cases of vandalism in housing areas, only those areas with more than one hundred residents will be included. The other sections, with one hundred or fewer residents, are small residential areas, commercial areas and recreational areas: 51 of them had no reported cases of vandalism during the research year, 1976. The remaining 42 had more than fifteen reported cases of vandalism per thousand residents. This can be misleading, as the cases of vandalism in those areas with one hundred or less inhabitants will result statistically in an unrealistically high level of vandalism compared to the other housing areas with a higher population density (see 3.2).

4.2 Residential Areas in the Multiple Classification Analyses

The MCA analyses of the data at the aggregate level include 221 residential areas. Four areas originally included were subsequently excluded from the analyses because they presented a great deviation from the rest of the housing areas in rate of reported cases of vandalism per thousand residents.

Table 4.1 shows the figures for the residential areas, number of police-reported cases of vandalism and the figures when the cases are calculated per thousand residents. The residential areas included in the MCA analyses vary from no cases of vandalism per thousand residents to 66 reported cases.

Table 4.1 Distribution of cases of vandalism in the excluded residential areas

Residential areas	Number of residents	Cases of vandalism	Cases of vandalism/ thousand residents
112	145	16	110
120	142	34	239
121	256	45	176
305	266	31	117

The areas excluded are situated in the centre of the city. They are located in a line from the ferry boat terminals to and from Denmark and other countries, in towards the centre and passing through the business district.

4.3 Vandalism Data

Permission to study the cases of vandalism documented by the police in Malmö was given by the Ministry of Justice. The empirical data on vandalism stem from police-reported cases during 1976. A report of an offence is a case which has come to the attention of the police and is registered as a criminal act by them. Vandalism is included in Chapter 12 of the Swedish Criminal Code, where it is subdivided into five categories: damage to motor vehicles (1201), damage by fire (1202), other damage (1203), trespassing (1204), and damage to public property (1205). The subgroup 'trespassing' is excluded from the study because the number of cases is small, about 80 during a year, and this kind of vandalism occurs more often in rural environments than in urban environments.

An act of vandalism is here considered as one case, independent of the number of individuals who took part in the committing of the offence. If there is more than one report concerning the same case, the case is counted once but if an individual has committed more than one act of vandalism and these cases are within the same report, the

separate acts are counted.

During the year 1976, 65,284 crimes were reported in the police district of Malmö and 3,574 of these were cases of vandalism. In the research district, about 2,500 cases of vandalism were reported during the research year. Some of these offences have been excluded from the study for various reasons; e.g. the case was not an act of vandalism but an unsuccessful theft, the case had been coded wrongly by the police, etc. The total number of cases of vandalism which occurred within the research district during 1976 was 2,067 cases.

In 31% of the cases, a suspect was reported in connection with the act, in total 854 persons. Among these suspects, 23% of them committed more than one act of vandalism during the research year. 68%, 577, of the suspected offenders were tried before a court of law, while no legal proceedings were taken against the other 277. Of the latter, some were too young to be tried before a court of law. The normal procedure for young offenders is that the social authorities take care of both them and the case. Another reason why a report of vandalism with a known offender will not lead to any legal action is that the charges are withdrawn. This is a rather common occurrence between persons who know each other and stand in an emotionally dependent position to one another.

4.4 The Distribution of the Residential Areas in the Vandalism Groups

The number of residential areas with one hundred or more residents is 225. The areas are, as already mentioned, divided into four groups according to the frequency of reported cases of vandalism in relation to the number of residents in the residential areas, (see Table 4.2). Half of the residential areas can be referred to as having a rather low level of vandalism while half of the areas can be considered as having a rather high level of vandalism.

Table 4.2 Police-reported cases of vandalism divided into the different vandalism groups

Vandalism groups	Cases of vandalism/ thousand residents	Number of areas	Per cent of areas
Zero	0	29	12.9
Low	0.0001- 5.0	83	36.8
Intermediate	5.0001- 15.0	69	30.7
High	15.0001-239.0	44	19.6
Total		225	100

The limits were chosen for the purpose of having a group of areas with a low percentage of reported cases of vandalism and a group of areas with a high percentage. The intermediate vandalism group reflects the middle road between housing areas with a low percentage of vandalism and those with a high percentage. As can be seen in the Table, the variance within the chosen limits is rather large in the intermediate vandalism areas and very large in the high vandalism areas. It was, however, also of interest to allow the different vandalism groups to represent a sufficient number of areas to facilitate the analysis of the results.

4.5 The Distribution of the Vandalism Cases in the Residential Areas

The subcategories of vandalism related to the different vandalism groups are shown in Table 4.3, although for obvious reasons the zero vandalism group is not included. As can be seen in the Table there exist only some differences among the vandalism groups.

Table 4.3 The subcategories of vandalism in the different vandalism groups (%)

Subcategories of vandalism						
Vanda- lism groups	Damage to motor vehicles	Damage by fire	Damage to public property	Other damage	Total %	N
Low	30.5	11.2	7.3	51.0	100	331
Inter- mediate	27.2	10.2	8.3	54.3	100	696
High	25.0	12.4	11.5	51.1	100	1,040
Total %	26.6	11.4	9.8	52.2	100	
" N	550	237	202	1,078		2,067

Damage to motor vehicles is most noticeable in the low vandalism group with nearly 31% of the cases of vandalism in this category. Damage by fire is somewhat higher in the high vandalism group than in the others. The high vandalism category has, however, a noticeably higher percentage of damage to public property than the other groups, nearly 12%.

Of the reported cases of vandalism in the research districts, two-thirds of the cases will never terminate in any legal consequences due to a lack of suspects. In 22% of the cases the suspect offender will be sent to the law courts, while another 11%, where the suspect in fact is known to the police, no legal proceedings will be taken because of age or because of the withdrawel of the report of vandalism, Table 4.4.

Table 4.4 The proceedings of the reported cases of vandalism in the different vandalism groups (%)

Proceedings of the cases

Vandalism groups	Court referrals	Other proceedings	No proceedings	Total %	N
Low	15.1	11.8	73.1	100	331
Intermediate	22.4	10.9	66.7	100	696
High	24.1	10.8	65.1	100	1,040
Total %	22.0	11.0	67.0	100	
" N	457	227	1,383		2,067

As can be seen in Table 4.4, the variations between the vandalism groups is small, except in the low vandalism group where only 15% of the cases were court referrals, as opposed to 22% and 24% in the intermediate and high vandalism groups respectively. The higher figures here indicate that these areas not only have a higher rate of vandalism but also a higher percentage of their cases as court referrals. A possible explanation for this is that the acts of vandalism were more extensive and serious and led more easily to discovery and police-reporting.

4.6 Police-reported Vandalism in Sweden

The criminal statistics of reported cases of vandalism have shown an increase in frequency both in the real number of cases of vandalism and percentually in relation to other crimes, Table 4.5 shows that between the years of 1950 and 1982 the number of reported cases of vandalism increased from about 5,000 to about 68,000. For the total number of reported crimes in Sweden, the figure during the same

period rose from about 195,000 cases to about 984,000 cases. In other words, the increase of the reported cases of vandalism was nearly fourteenfold during the period, while the total number of reported crimes was only five times as high.

Table 4.5 Police-reported cases of vandalism in real numbers, in relation to the total number of reported crimes (%) and the total number of reported crimes in Sweden 1950-1982 (Year-book of Legal Statistics 1983)

Cases of vandalism			
Year	Number	Per cent of the total number of crimes	The total number of reported crimes
1950	5,063	2.6	195,261
1955	8,039	3.3	243,786
1960	13,166	4.4	297,874
1965	22,995	5.1	448,619
1970	33,882	5.2	656,042
1975	54,760	7.2	755,405
1980	59,057	6.4	928,277
1982	68,278	6.9	983,758

The number of reported cases of vandalism in relation to the total number of reported crimes is also shown in Table 4.5. The increase in cases since 1950 is from nearly three per cent to about seven per cent in 1982. The period with the most extensive increase in cases was that between the years of 1970 and 1975. Percentually the reported cases of vandalism increased from five to seven per cent in relation to the total number of police-reported crimes. The increase in the real number was 20,878 cases of vandalism.

Table 4.5 does not show any decreases or stagnation in the real number of cases. If, however, one studies the separate years continuously, minor decreases and stationary periods are indicated.

The causes of these "plateaux" might be several. One reason for instance is that they in fact reflect real variations in the rate. Another is that variance in tabulating the statistics, such as incorrect codings, missing values and inconsistencies in police rules and routines, can affect the statistics even if the actual rate of the crime has not changed. An interpretation of the minor deviations in the Table is then uncertain and difficult to make.

It is assumed that the actual number of cases of vandalism is very high vis-à-vis the number of reported cases, much more so than, for instance, with murder, where almost all of the cases come to the attention of the police. Much lower still is the per cent of reported cases of vandalism which is cleared up and resolved - on the average, about 15-17% per year.

4.6.1 Vandalism in the Research District and the Three Largest Cities in Sweden

The police-reported cases of vandalism, or damage, as it is named in the Criminal Code, in relation to the total number of reported crimes was seven per cent in Sweden during 1976. The corresponding figure for the research district, Malmö, was six per cent. In Table 4.6 the distribution of reported cases of vandalism in the three largest cities, the research district and for the whole of Sweden, subdivided into the four vandalism categories is given: damage to motor vehicles, damage by fire, damage to public property, and other damage. The subcategory, damage to motor vehicles includes damage to private cars, motor lorries, different motor-driven working machines, motorcycles etc. Damage by fire refers to minor fires in cellars, in rubbish chutes, in containers, etc. Serious fires, where people might be in danger, are not included in this vandalism category. Damage to public property is the subcategory which includes everything where the public is the owner. Examples are damage to buildings, institutions, and offices owned by the state, the municipality, or the county council, to cars (such as, for instance, police cars), telephone boxes, parks and other recreation and sport grounds. The vandalism subcategory "other damage" includes everything else, such as scratching windows, doors, destruction of dwellings, bicycle sheds, graffiti, etc.

Table 4.6 Police-reported cases of vandalism in the subcategories in the three largest cities, the research district and the whole country during 1976 in relation to the total number of reported crimes (%). (Yearbook of Legal Statistics 1977)

Subcate- gories	Greater Stockholm	Greater Gothenburg	Greater Malmö	The Research District	The whole country
Damage to motor vehicles	22.1	32.7	30.1	26.6	26.2
Damage by fire	7.4	1.8	6.4	11.4	2.9
Damage to pub- lic property	14.0	17.8	11.8	9.8	15.6
Other damage	56.5	47.7	51.7	52.2	55.3
Total %	100	100	100	100	100
" N	10,074	4,288	3,574	2,067	54,818

As can be seen in Table 4.6, there are some differences between the large cities, the research district and the whole country. Damage to motor vehicles is most frequent in Greater Gothenburg: 33% of the cases. The lowest figure is found in Greater Stockholm, with 22%. The figure for the research district is 27% which is about the same as for the whole country.

The Table shows that there is percentually a difference between Greater Malmö and the research district in respect to the incidence of damage to motor vehicles. This difference can be based on the fact that cases of damage to motor vehicles which can be interpreted as unsuccessful acts of theft, but coded as damage, were excluded from the data of the research district.

Damage by fire shows noticeable differences between the

different groups. In relation to the other groups, the research district has percentually a very high figure of 11%. The corresponding figure for Greater Stockholm is seven per cent, Greater Malmö six per cent, Greater Gothenburg two per cent and finally three per cent for the whole country. The low figure of reported damage by fire in Greater Gothenburg can be a result of the fact that a higher percentage of its fires are coded as arson instead of as damage. The common situation when a fire is reported to the fire brigade is that the police will automatically also be alerted. The police will then write a report on the fire, where the danger of the fire for the residents will be taken into consideration.

The high difference between the research district and the other groups is somewhat surprising. The number of the reports of damage was taken from data-computed criminal statistics which ought to imply that this data is the same for all the groups. The real number of fires in Greater Malmö and the research district was about the same, 229 and 202 respectively. Greater Stockholm had 749 cases of damage by fire, Greater Gothenburg had 78 cases, and the figure for the whole country was 1,598 during 1976.

It is only the minor, less serious, fires which are coded as damage by fire. The more extensive fires, where people might be in danger, are referred to as arson. In Sweden a total number of 11,997 cases of fire were reported to the police during 1976. Of these fires, as many as 2,798 were reported in Greater Stockholm, 1,082 in Greater Gothenburg, and 958 in Greater Malmö.

According to the minor difference between Greater Malmö and the research district, one might consider the fact that the cases of damage seem to be concentrated in the central areas of the urban environment.

The subcategory damage to public property is highest in Greater Gothenburg. 18% of the cases of vandalism report damage to property owned by the state, the county council or by the municipality. Greater Malmö and the research district have the lowest figures, about 12% and about 10% respectively. In the case of public property it is sometimes difficult to decide the ownership, as well as the direction and purpose of the act of vandalism. Damage to a dwelling caused through a conflict between the tenant and another person is coded as "other damage" regardless of whether the municipality, tenant-owners' association or a private person owns the house.

The main variations between the groups are concentrated in damage by fire and damage to motor vehicles. As already mentioned, some of the discrepancies between the three largest cities, the research district and the whole country might be explained by various coding systems. These two categories of vandalism are those which are supposed to refer most closely to the real number of cases of vandalism. A large fire can grow to a dangerous level: this is something that most people try to prevent by reporting it to the police. On the other hand many minor fires caused by children will go out by themselves.

Damage which is directed at property owned by private persons is supposed to be police-reported more often than offences directed at companies or at the public. Damage to motor vehicles is a kind of vandalism which causes private persons expense and this may make them inclined to report to the police for the purpose of getting compensation from insurance companies. This assumption has been somewhat confirmed through the high rate of police-reported minor offences to private cars in the statistics.

In the following chapters the empirical data will be described and analyzed.

5. THE POPULATION COMPOSITION OF THE RESIDENTIAL AREAS

According to the hypothesis of the population composition, the age structure of the residents, their nationality and social class membership are possible explanations of variance in the rate of vandalism in residential areas.

This chapter will begin with a description of the population density of the residential areas. The age structure of the residents in the different vandalism groups will be described and thereafter analyzed through the multiple classification analysis technique. The nationality of the residents and its influence on the rate of vandalism will then be discussed. The chapter will end with an analysis of the influence of these factors of vandalism in residential areas.

5.1 The Population Density of the Residential Areas

The different vandalism groups have various population densities: two of them have low densities and the other two high densities, (Table 5.1). The low density in the areas of the zero vandalism group is explained by the large proportion of one-family houses in these areas. One reason for the rather low population density of the areas in the high vandalism group is that many of these areas are situated in the centre of the city where office premises and the commercial sections are quite extensive and dwellings are restricted to the upper storeys of the buildings.

Table 5.1 The mean population density of the different vandalism groups

Vandalism groups	Population density of the residential areas Mean population/area
Zero	471
Low	1,300
Intermediate	1,190
High	601
Total	1,023

5.2 The Age Structure of the Residents in the Residential Areas

5.2.1 The Age Structure of the Residents

The residents' age structure in the different vandalism groups is described in Table 5.2. The age levels chosen are: children twelve years old or younger; adolescents between the ages of thirteen and nineteen; adults from twenty to forty-nine years, and finally middle aged tenants who are fifty years old or older.

It will be seen in the Table that only minor variations exist between the different vandalism groups. The largest variation is found in the adult class and in the middle aged class, where the variations are six and seven per cent between the highest and the lowest figures. The percentage of middle aged residents is lowest in the high vandalism group while this group has the highest percentage of adult residents.

Table 5.2 The age structure of the residents in the different vandalism groups (%)

Vandalism group	Children -12	Adolescents 13-19	Adults 20-49	Middle aged 50-	Total %	N
Zero	16	11	39	34	100	13,656
Low	14	9	38	39	100	107,860
Intermediate	13	8	40	39	100	82,124
High	15	9	44	32	100	26,452
Total %	14	9	39	38	100	
" N	31,652	19,825	91,454	87,161		230,092

It can be concluded from the results that young people are numerous both in the high and in the low vandalism areas. The age structure of the residents cannot alone explain the variance in rates of vandalism in residential areas, a fact which is partly in contrast to that reported by Wilson (1980). In the next section these results will be compared with the age structure of the reported vandals.

5.2.2 The Age Structure of the Police-reported Vandals

It is commonly believed that vandals are mainly young people still in primary school. Martin (1961), for instance, found that the mean age of offenders found guilty for acts of vandalism in New York was 12.9. The corresponding mean age for other juvenile delinquents was 14.5. Cohen (1968) also pointed out that vandals are often younger than other delinquents, although he has also noted the fact that there is a second vandalism-prone period for youths which occurs in late adolescence as a result of offences of general rowdyism.

In this study the most frequently-reported ages of vandals in Malmö during 1976 were eighteen, nineteen and twenty years. This age span accounts for 16% of all the reported vandals in the research year. In the research district, five per cent of the residents were within the age span seven to nineteen years and of the reported offenders who had committed their acts of vandalism within the research district the corresponding figure was 27%.

In Table 5.3, the age distribution of the reported vandals is presented. The age groups used are: children two to eleven years; young adolescents twelve to fifteen years; old adolescents sixteen to twenty years; adults twenty-one to twenty-four years and old vandals, twenty-five years or older.

Table 5.3 The distribution of reported vandals in age groups

Age groups	Separate individuals		Number of occasions		Vandals in relation to total number of residents in the age groups %
	%	N	%	N	
2-11	2	13	3	27	0.05
12-15	7	49	11	89	0.4
16-20	24	155	29	251	1.0
21-24	16	107	14	117	0.7
25-	51	337	43	367	0.2
Total	100	661	100	851	0.3

Of the reported vandals, those most frequently reported are in the age group sixteen to twenty years, followed by the adult vandals. Together these two age groups make up 40% of the reported vandals (Table 5.3).

In 499 reports the marital status of the vandals was given; this information verifies that the age period sixteen to twenty-four years is the "single" period of life. Six per cent of these vandals reported that they were married or had a permanent relation. Two per cent of them were divorced. The corresponding figures for the vandals twenty-five years or older were 25% married and 39% divorced.

22% of the vandals were reported for more than one act of vandalism in the research year. A division of the "repeaters" into the various age groups resulted in children being the most frequently found in this category. Percentually half of the children reported were reported for more than one case of vandalism. This means that some of the children committed two or more reported acts of vandalism (Table 5.3). There might be a general resistance against reporting young people to the police but, when reported, several cases of vandalism will be documented. The same condition might also be relevant for the young adolescents 45% of whom are repeaters. The

third largest group of repeaters is the old adolescents, with 38%. The last two groups, the adults and the old vandals have only nine and eight per cent repeaters respectively.

As in most traditional criminality, males commit most of the crimes reported to the authorities, female vandals comprising only six per cent of all reported vandals (N=38) for the research year. It is difficult to decide if the females' low percentage of reported vandalism is a reflection of the real condition or is due to other factors such as unwillingness to report females and especially young girls. There are no girls among the reported children eleven years old or less. There is no documentation in the literature indicating that the frequency of female vandalism should be more extensive (cf. for instance Clark 1952; Elmhorn 1965; Hauge 1971), but Barton Wise (1967) in a study of self-reported delinquency of middle-class boys and girls found that while girls commit fewer crimes than boys, they commit more than the official statistics indicate.

This study, on the individual level, has indicated that acts of vandalism are most often committed by young males. These results are also in accordance with what is documented in other studies (cf. fi Clinard and Wade 1958; Hirschi 1969; Sveri 1960, 1963; SOU 1971:49). Variations in the age level of vandals have been noted, however. The age level of vandals is commonly reported as lower, around the age of twelve or fourteen, both in self-reported studies and in studies with convicted vandals (cf. Martin 1961).

5.2.3 An Analysis of the Relationship Between Vandalism and Age Structure

An interesting issue is whether a high density of young people in residential areas results in a high level of reported cases of vandalism in these areas. Table 5.2 showed that the percentage of young people is high both in the zero vandalism group and in the high vandalism group.

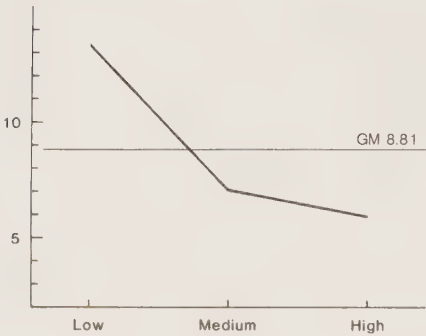
Figure 5.1 presents an analysis of the relationship between vandalism and young people, aged seven to nineteen years. The grand mean of the analysis is 8.81. In the Figure the variable categories are Low, Medium and High percentage of young people in the residential areas respectively.

The analysis indicates that there is a negative linear relationship between vandalism and percentage of young people. The eta coefficient, which is a non-linear correlation measure, shows a rather strong relationship between vandalism and young people, i.e. in residential areas with a high level of reported cases of vandalism,

the percentage of young people among the residents is low.

Figure 5.1 Vandalism by young people

Grand mean 8.81



Category	N	Unad-justed	Limits %
Low	71	4.79	<11
Medium	83	-1.77	11-20
High	67	-2.88	20>

Eta: .32
Sign: .000

To conclude one can say that even if it is demonstrated in this and other studies that young people are the most frequent vandals, a high percentage of young people among residents does not indicate that such areas have a high proportion of reported cases of vandalism: it is rather the contrary which is valid. The residential areas in the centre of the city have a high level of reported vandalism while a relatively low percentage of young people live in these areas. On the other hand, the percentage of young people in the new multi-storey housing projects is high and these areas also have a high level of vandalism though not higher than the areas in the centre of the city (cf. Map 3.1).

5.2.4 Vandalism by Young People and Type of Dwelling

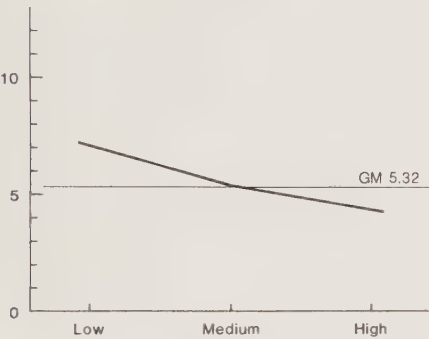
In order to determine if the negative relationship between vandalism and the percentage of young people persists if residential areas with mainly one-family houses and residential areas with mainly rented dwellings in multi-storey blocks are analyzed separately, an analysis of these two groups was also performed.

The analysis of the relationship of residential areas with 55% or more of the dwellings as rented in multi-storey buildings (N=88) indicated a negative curvilinear relationship between vandalism and young people, with a moderately strong eta coefficient. A corresponding analysis of residential areas with less than 55% rented dwellings in multi-storey buildings (N=133), i.e. residential areas

with mainly one-family houses and dwellings belonging to a tenant-owners' association, showed a relationship of no effect. The eta coefficient in this analysis was weak.

Figure 5.2 Vandalism by young people in residential areas with less than 55% of rented dwellings in multi-storey buildings

Grand mean 5.32



Category	N	Unad-justed	Limits %
Low	26	1.93	<11
Medium	52	.03	11-20
High	55	-.94	20>

Eta: .18
Sign: .154

Figure 5.3 Vandalism by young people in residential areas with 55% or more rented dwellings in multi-storey buildings

Grand mean 14.07



Category	N	Unad-justed	Limits %
Low	45	3.19	<11
Medium	31	-4.22	11-20
High	12	-1.05	20>

Eta: .26
Sign: .028

Even if young people are said to be the most numerous offenders

in respect of vandalism, this is not so at the aggregate level where a low percentage of young people shows instead a positive relationship with reported cases of vandalism.

5.2.5 The Vandals' Choice of Location in Relation to Their Home Address

It has been demonstrated in the preceding sections that children and adolescents are not a distinguishing factor in explaining variance in the rate of vandalism in residential areas. One explanation for this could be that they choose to vandalize outside their own home areas. However, this has not been the case in this study where, in as many as 23% of the cases of vandalism, the individuals responsible lived in the areas where they committed their acts of vandalism. In a further 25% of the cases, the vandals chose to vandalize in an area directly adjacent, or very near, to their own. That is to say, in nearly half of all the reported cases with a known suspect, the acts of vandalism were committed in nearby, well-known, surroundings. Acts of vandalism committed within a short walking distance of the vandals' home address occurred in 27% of the cases. (By "a short walk" is meant ten to fifteen minutes' walk).

The cases of vandalism which were committed farther away from the respective vandals' home areas but still within the research district made up 15% of the reported cases. Eight per cent of the cases in the research district with a known offender were committed by a person who lived outside the research district. In one per cent of the cases the reported vandals had no permanent home address and in another one per cent of the cases the offenders' home addresses were not noted in the reports.

A summary of these results shows that in 75% of the cases of reported vandalism with a known offender, the vandals chose to commit their acts of vandalism in the home area or within a short walking distance from the home address. In only 23% of the cases did the vandals live at any distance from the vandalism areas. These results are in accordance with the results of other studies (Carlsson 1972).

Another way of analyzing the vandals' choice of objects and places of vandalism without relating it to their own home residential area, is to study where in the residential or non-residential areas they commit the crime of vandalism. 41% of the cases were committed within or adjacent to the buildings in the residential areas, 49% of the cases were committed in business areas, in the streets, and in other non-residential areas and, finally, 10% of the cases were

directed at public institutions, Table 5.4.

Table 5.4 Choice of location in relation to the age groups (%)

	Children	Young adoles- cents	Old adoles- cents	Adults	Old vandals	Total %	N
Residential areas	59	37	29	36	50	41	353
Non-residen- tial areas	41	35	62	58	42	49	415
Public institutions	0	28	9	6	8	10	83
Total %	100	100	100	100	100	100	
" N	27	89	251	117	367		851

The different age groups indicated some variations among the areas where the cases of vandalism were committed. Children naturally commit most of their acts of vandalism within the residential areas and near their homes, i.e. 59% of their cases. The next age group which has a high concentration in residential areas is the old vandals with 50%. As the old vandals often seem to have a special aim for their acts of vandalism and the objects of their destruction often belong to persons known to them, their vandalism is often carried out in residential areas (Nilsson 1983).

The most frequent vandals in the business areas, the streets and in other non-residential areas such as recreational areas and parks, are the old adolescents. As much as 62% of their cases were committed in these areas.

In the next section the nationality of the residents and its influence on the rate of vandalism will be discussed.

5.3 Nationality

5.3.1 The Nationality of the Residents of the Residential Areas

In the whole research district, eight per cent of the inhabitants come from countries other than Sweden. The immigrants come mainly from Yugoslavia, Poland, Greece, Portugal, Germany, Italy and Turkey, and, naturally, also from the other Scandinavian countries, Finland, Denmark, Norway and Iceland. The total number of immigrants from Scandinavia is about 6,000 persons. The largest group of Scandinavian immigrants is the Danish group, comprising 3,500 persons, i.e. more than half of all the Scandinavian immigrants. This may be partly a consequence of the short distance between Sweden and Denmark. It takes about three quarters of an hour to travel between Malmö and Copenhagen, and this makes it possible for Danes to reside in Malmö (where rents are lower) and work in Denmark. About 1,700 immigrants come from Finland and about 600 from Norway. The smallest immigrant group from Scandinavia is from Iceland, numbering about 200 persons.

The largest group of immigrants from outside of Scandinavia is from Yugoslavia, 5,300 persons. The next largest group comes from Poland; about 1,000 persons in the research year. The immigrants from Germany and Greece totalled about 700 people each. These two immigrant groups are followed in size by the Portugese with nearly 600 persons, and finally by the immigrant groups from Italy and Turkey, numbering 400 and nearly 500 persons respectively. Within the research district there are also other immigrants, totalling 3,300 from countries such as Great-Britain, the United States, Belgium, the Netherlands etc. as well as from countries in Latin America.

In Table 5.5 the distribution of the immigrants in the different vandalism groups is shown. It can be seen here that the largest difference in the percentage of immigrants is found between the intermediate vandalism group and the high vandalism group, percentually half as many immigrants live in residential areas with an intermediate level of vandalism than in areas with a high level of vandalism. The differences among the other vandalism groups are only three to four per cent.

Table 5.5 The distribution of the immigrants in relation to the total number of residents in the different vandalism groups (%)

Vandalism groups	Scandinavian immigrants	Non-Scandinavian immigrants	Total %	N
Zero	1	1	2	297
Low	2	3	5	5,838
Intermediate	3	6	9	7,670
High	5	13	18	4,870
Total %	3	5	8	
" N	6,087	12,588		18,675

It is important in this connection to point out the fact that even if the highest percentage of immigrants lives in the highest vandalism area this must not be interpreted as meaning that it is the immigrants who commit most of the vandalism. Their presence in these high vandalism areas might reflect rather the socio-economic status of the housing areas or the immigrants voluntary or involuntary living circumstances (cf Bates and McJunkins 1962).

Indeed as will be evident in the next section, one can even indicate a positive relation on the individual level between Scandinavian immigrants' status and vandalism, but this is so weak that it can hardly explain the indicated ecological correlation.

5.3.2 The Nationality of the Vandals

Eight per cent of the population of the research district were immigrants. Of the reported offenders, 11% were immigrants. Six per cent of the reported immigrants were from the other Scandinavian countries and five per cent from the rest of Europe and non-European countries.

A calculation of the number of reported vandals in relation to their nationality group gives the ratio of .8% for the Scandinavian immigrants and .4% for the non-Scandinavian immigrants. For the Swedes the corresponding ratio is .5% for the research district. It is, in other words, the Scandinavian immigrants who percentually have the highest rate of reported cases of vandalism. Among the Scandinavian

immigrants the Danish group seems to have the highest rate of reported vandals. A circumstance which it may be relevant to note is the possibility that the non-Scandinavian immigrants, more often than the Scandinavian immigrants and the Swedes, try not to be involved with the police using instead informal social control to prevent their members from lawbreaking actions as well as "punishing" the lawbreakers.

An overrepresentation of immigrants among the reported vandals is not surprising because, except for the Scandinavian and European immigrants, their appearance differs from that of the Swedes, making them easier to recognize. One might also assume that some groups of Swedes are prejudiced against immigrants and lay on them the responsibility for much of the criminality in Swedish society, perhaps making them prone to report immigrants if they suspect them of any form of lawbreaking (cf Sveri 1980). However, with respect to vandalism this might not be the case because the European and other immigrants are not reported more frequently than the Swedes and Scandinavian immigrants.

As already noted, Faris (1948) found second generation immigrants more often in the risk zone for becoming delinquent than first generation immigrants due to culture conflicts and poor living conditions. Bohlke (1961) pointed out the same condition but saw it rather as a social class problem. In Sweden the immigrants' crime level is statistically higher than that for Swedes (Sveri 1980). Immigrants also belong percentually more often to the lower social class than do the Swedes. Their age structure is also younger indicating that more of them are in the crime active ages (Sarnecki 1981).

A comparison of the immigrants' and the Swedes' ages when they are most disposed to commit acts of vandalism shows that the Scandinavian immigrants in general fall more often into the category "twenty-five years old or older" than the Swedes and the other immigrants. The figures are respectively 64%, 50% and 52%.

The reported vandals aged between twelve and twenty years are percentually most numerous among the other immigrants. 39% of the other immigrants are within this age-group. The corresponding figure for the Swedes is 31% while the Scandinavian immigrants have only 13% of their reported vandals aged between twelve and twenty.

The vandals, eleven years old or younger, are relatively most numerous in the Scandinavian immigrant group, (5%). Among the Swedes they make up 2% and among the other immigrants 3% of the total. Finally, vandals aged between twenty-one and twenty-four accounted for 6% of the "other immigrants" group 17%, of the Swedes and 18% of the Scandinavian immigrants.

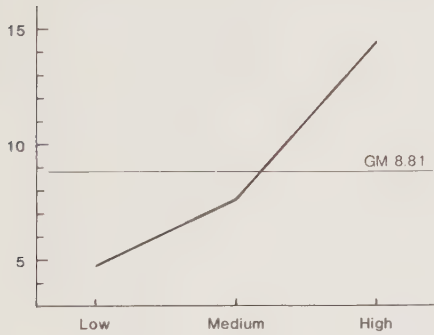
The differences between the nationality groups are most noticeable in the Scandinavian immigrant group, where the highest percentage of old vandals is to be found and, as a consequence of this, also the lowest figure for the adolescents vandals. Another noticeable difference is the low figure for adult vandals among the "other immigrants".

5.3.3 Vandalism by Nationality

This study has indicated that immigrants are not responsible for more reported cases of vandalism than Swedes except for a somewhat higher representation among the Danish immigrants. If one then considers the relationship between vandalism and immigrants at the aggregate level the analysis indicates a positive linear relationship between vandalism and Scandinavian immigrants, (Figure 5.4). The eta coefficient being a rather strong.

Figure 5.4 Vandalism by Scandinavian immigrants

Grand mean 8.81



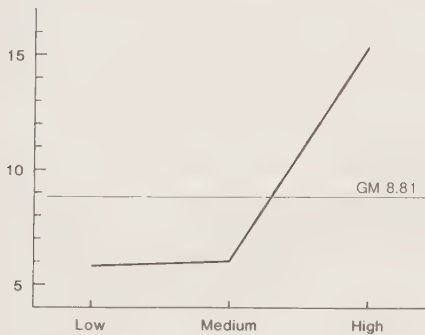
Category	N	Unad-justed	Limits %
Low	92	-3.72	>1
Medium	51	-.69	1-2
High	78	4.84	2>

Eta: .36
Sign: .029

There is also a positive relationship between vandalism and other immigrants and in this case the relationship is strong,(Figure 5.5).

Figure 5.5 Vandalism by non-Scandinavian immigrants

Grand mean 8.81



Category	N	Unad-justed	Limits %
Low	96	-3.01	>2
Medium	56	-2.81	2-4
High	69	6.47	4>

Eta: .42
Sign: .000

These two analyses show that there is a rather strong to strong relationship between vandalism and percentage of immigrants. From the individual data it was concluded that in general immigrants are not reported for acts of vandalism more often than Swedes. A possible explanation for the positive relationship between vandalism and percentage of immigrants is that immigrants voluntarily or involuntarily live in residential areas which have a high level of vandalism and these areas can be characterized as low status areas in respect of the social and physical environment. Bates and McJunkins (1962) have maintained that the percentage of immigrants, or in their case non-white residents, is a more reliable predictor of a residential area's socio-economic status than income and other economic variables.

5.4 Vandalism by Young People and Immigrants

The preceding sections indicated that immigrants show a positive linear relationship with vandalism while young people show a negative linear relationship. In this section these two independent variables will be analyzed together to elucidate whether or not they influence each other and contribute to the explanation of vandalism.

Table 5.6 MCA of vandalism by young people and immigrants

Grand mean 8.81

Variables	N	Unadjusted	Eta	Adjusted for independents	Beta	Sign
Young people:						
Low	71	4.79		4.12		
Medium	83	-1.77		-1.91		
High	67	-2.88		-2.00		
			.32		.27	.000
Immigrants:						
Low	79	-4.53		-4.11		
Medium	73	-.48		-.54		
High	69	5.70		5.27		
			.40		.37	.000
Multiple R squared					.235	
Multiple R					.484	

As can be seen, the variables do not change much when adjusted for each other. Their linearity persists and both of them decrease one step in strength of relationship. This analysis explains 24% of the variance in the rate of vandalism in residential areas. However, a significant interaction between them is indicated.

A division of the immigrants into Scandinavian and non-Scandinavian immigrants gives only minor variations. The analysis of vandalism by young people and Scandinavian immigrants explains 21% of the variance while the analysis of vandalism by young people and non-Scandinavian immigrants explains 25% of the variance.

To conclude, the two independent variables did not influence each other to a noticeable extent and the strength of their relationship changed only one step. However, the significant interaction between "immigrants" and "young people" makes this MCA analysis meaningless (Table 5.6).

5.5 Summary

In this chapter the population composition hypothesis was discussed. The analyses have indicated that young people are a distinguishing factor in explaining variance in the rate of vandalism. Wilson (1980) found that children were an important factor in determining a residential area's level of vandalism. The individual data confirmed that it is youths who are the age group most often reported for cases of vandalism, (Table 5.3). On the aggregate level young people have also been shown to be a distinguishing factor but here the relationship becomes negative. Residential areas with high levels of vandalism have a low percentage of young people and vice versa. It is interesting to note that when the percentage of young people was referred to one-family houses and to rented dwellings in multi-storey buildings the relation to vandalism indicated no effect or became curvilinear (Figure 5.2 and Figure 5.3).

In a comparison of place of vandalism and the vandals home address it was indicated that vandals most often choose to vandalize in or near their home (5.2.5).

The influence of the nationality of the residents was found to be positively related to vandalism. In residential areas with a high level of vandalism the percentage of immigrants was also large. With the exception of the Danes there was no indication in the cases of reported vandalism that immigrants are more prone to vandalism than Swedes. An assumption, which is also demonstrated in the literature, is that the positive relation between immigrants and vandalism reflects their living conditions rather than their actual disposition for committing acts of vandalism (Bates and McJunkins 1962).

One conclusion is that the tested hypothesis of population composition does not give an acceptable explanation of variance in the rate of vandalism in residential areas. The analysis of young people has indicated contrary results on the aggregate and the individual levels. An explanation for this is that the percentage of young people is high in residential areas with one-family houses and in these areas the number of reported cases of vandalism is low. (Table 5.2). The fact is, however, that the percentage of young people is also high in the residential areas where the highest level of reported cases of vandalism was reported.

6. THE PHYSICAL ENVIRONMENT OF THE RESIDENTIAL AREAS

The physical environmental hypothesis suggests that variance in the rate of vandalism in residential areas might be explained by examining the physical planning, construction and design of housing environments.

In this chapter the physical environment of the residential areas will be discussed by means of an analysis of the age and type of the buildings, and of the size and quality of the dwellings.

6.1 The Age and Type of the Buildings in the Residential Areas

In Sweden there was an extensive increase in the construction of new dwellings during the period 1960-1980. During this period the number of dwellings increased by nearly one million, and by 1980 the number of dwellings totalled 3.77 millions (Thelander 1984). The large increase in the number of new dwellings since 1960 is noticeable within the research district where as much as 38% of the dwellings were constructed during the period 1961-1975. The highest percentage of buildings built after 1960 is found in the low vandalism group and in the high vandalism group. In both the groups 41% of the dwellings were built after 1960. The next figure, 38% is noted in the zero vandalism group and the lowest percentage of new buildings, 34% is found in the intermediate vandalism group. These figures for the age of the buildings indicate that the variations between the different vandalism groups are small.

It is common in Sweden, as well as in many other countries, to design and build residential areas with a uniform type of house. The housing areas are either built mainly with one-family houses or with multi-storey blocks of varying size (Lindberg and Sahlin 1980). From

the Second World War to 1970 there was a roughly constant proportionality between these two main groups of buildings; about 65% being dwellings in multi-storey blocks and about 35% one-family houses. However, this proportionality has changed since 1970. By 1980 the percentage of one-family houses had increased to 44%, and the percentage of dwellings in multi-storey blocks had decreased to 56%.

Within the research district there are about 13 490 one- or two-family houses (referred to as one-family houses) and about 109 410 dwellings in blocks of flats (cf Table 6.1). In the main the various housing areas have one predominant form of dwelling, i.e. mainly multi-storey blocks or mainly one-family houses. This will naturally reinforce the segregation between different housing areas, since living in, and owning, one's own house usually indicates a higher socio-economic status. The zero vandalism group has, as a mean, as much as 73% of one-family houses in its areas. The lowest figure is found in the high vandalism group with a mean of only five per cent of one-family houses, Table 6.1.

A dwelling can either be owned, belong to a tenant-owners' association or be rented. The one-family houses are of at least three main types; detached houses, link houses and terraced houses. The first type of houses are most often owner occupied and this is also largely the case for the link and the terraced houses. There is also the possibility of belonging to a tenant-owners' association. This however, is more common for the terraced houses than for the link houses. It is also possible to rent one-family houses (often terraced houses). This kind of dwelling alternative represents, however, a minor part of the total number of dwellings.

Tenants of dwellings owned in multi-storey blocks usually form a tenant-owners' association. 32% of the dwellings in the research district belong to such an association. It is the low vandalism group which has the highest rate of dwellings belonging to a tenant-owners' association (44%). The lowest figure is found in the high vandalism group with a mean of only six per cent, Table 6.1.

Table 6.1 The distribution of one-family houses, dwellings belonging to a tenant-owners' association, council houses and high-rise blocks with private or company owners in the different vandalism groups (%)

Vandalism groups	One-family houses	Tenant-owners' association	Council houses	High-rise blocks with private or company owners	Total %	Number of dwellings
Zero	73	22	3	2	100	4,948
Low	11	45	14	30	100	53,618
Inter-mediate	6	29	19	46	100	47,444
High	5	6	24	65	100	16,890
Total %	11	32	17	40		
" N	13,490	39,910	20,899	48,601		122,900

Council houses which were built mainly at the end of the 1960's and during the 1970's constitute 17% of all the dwellings in the research district. These houses are most numerous in the high vandalism group with 24% (see Table 6.1). An opinion, unfortunately common, is that tenants living in council houses are forced to choose this dwelling alternative because their economic resources are limited. Residential areas composed mainly of multi-storey buildings owned by the municipality have in many respects become segregated and places where vandalism, other delinquency and social problems among the residents are supposed to be more common than in other housing areas.

Dwellings in high-rise blocks with private or company owners make up as much as 40% of all the dwellings in the research district. A significant portion of these are located in the older, central part of the city. Here many of them are in need of extensive renovation. The highest percentage of these dwellings is also found in the two highest vandalism groups. 65% of the dwellings are in these blocks in

the high vandalism group and 46% in the intermediate vandalism group. In the zero vandalism group only two per cent of the dwellings are in private or company owned high-rise blocks (Table 6.1).

To summarize the distribution of the dwellings, it can be noted that the highest percentage of high status dwellings is found in the zero vandalism group. 95% of the dwellings are either in the form of one-family houses or belong to a tenant-owners' association. The corresponding figure for the low vandalism group is 56% compared to 35% in the intermediate group. Only 11% of the dwellings in the high vandalism group belong to a tenant-owners' association or are one family houses.

6.2 The Relation of the Physical Environment to Vandalism

In his studies of defensible space Newman (1973) pointed to the importance of the physical environment in the prevention of criminality. He found, for instance, that residential areas with a high density of residents (high-rise buildings situated in low socio-economic status areas) were exposed to vandalism and other forms of criminality. Newman asserts that it is possible to decrease the number of cases of destruction through physical design and planning (see 2.5). Earlier, as has already been pointed out, the relationship between the physical environment and the residents was studied by Faris and Dunham (1960) and Shaw and McKay (1969).

In this section the variables describing the physical environment will be analyzed. Unfortunately the variables are limited to the aggregated level only. The research includes no variables on the individual level measuring the physical environmental factors, but, as was indicated in Chapter 5, the reported vandals most often commit their acts of vandalism in or near their home areas.

6.2.1. Vandalism by Type of Dwelling

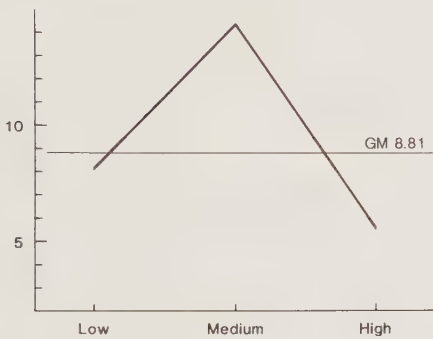
At the aggregate level the physical environment is measured through the following variables: percentage of one-family houses, percentage of dwellings in multi-storey blocks, percentage of large dwellings - dwellings with four rooms and a kitchen or larger, and finally the standard of the dwellings - here measured through

percentage of semi-modern dwellings and dwellings without modern conveniences.

An analysis of the relationship of the variable "percentage of one-family houses" indicates a curvilinear relationship between vandalism and one-family houses, (Figure 6.1). The eta coefficient is rather strong but the curvilinearity of the relationship makes it impossible to interpret the variable.

Figure 6.1 Vandalism by one-family houses

Grand mean 8.81



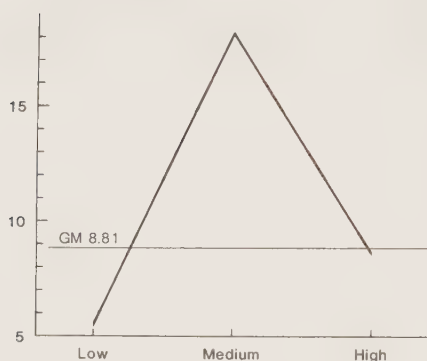
Category	N	Unad-justed	Limits %
Low	81	-.70	<0
Medium	58	5.55	0-55
High	82	-3.24	55>

Eta: .33
Sign: .008

As the variables are dicotomized the variable "percentage of dwellings in multi-storey blocks" will also show a curvilinear relationship with vandalism. In this analysis the eta coefficient becomes strong (Figure 6.2). In the following section the standard of the dwellings in the residential areas will be discussed.

Figure 6.2 Vandalism by dwellings in multi-storey blocks

Grand mean 8.81



Category	N	Unad-justed	Limits %
----------	---	-------------	----------

Low	84	-3.37	<55
-----	----	-------	-----

Medium	33	9.28	55-99
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High	104	-.22	99>
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Eta: .40

Sign: .000

6.3 The Quality of the Dwellings in the Residential Areas

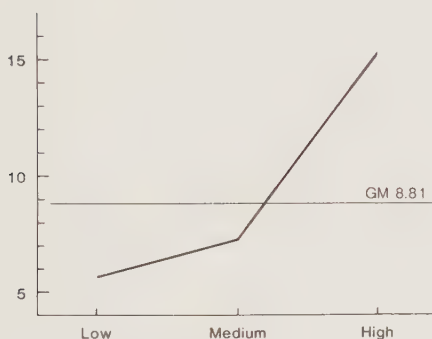
The dwellings in the different vandalism groups are divided into "modern", "semi-modern" or "dwellings without modern conveniences". Dwellings of modern standard are most numerous in the low vandalism groups. 95% of the dwellings are of a modern standard. In the intermediate vandalism group 91% of the dwellings are modern, while in the zero vandalism group 88% of the dwellings are classified as modern. The lowest figure for modern dwellings is found in the high vandalism group (78%). Within the high vandalism group are buildings situated in the centre of the city with semi-modern standards as well as dwellings without modern conveniences. This may explain the low figure of modern dwellings in these housing estates. The rather low figure in the zero vandalism group is due to the high frequency of one-family houses which do not always reach modern standards. For example the bath or shower may be situated in the cellar, a design common in houses built before the 1940's.

6.3.1 Vandalism by Non-modern Dwellings

In Figure 6.3 vandalism is analyzed by non-modern dwellings. One suggestion is that vandalism is more frequent in residential areas of slum character where regular management is non-existent and care is limited to urgent repairs. These high rise blocks are often awaiting either renovation or demolition.

Figure 6.3 Vandalism by non-modern dwellings

Grand mean 8.81



Category	N	Unadjusted	Limits %
----------	---	------------	----------

Low	68	-3.16	<2
Medium	96	-1.58	2-15
High	57	6.43	15>

Eta: .37
Sign: .000

As can be seen in the Figure there is a positive linear relationship between vandalism and non-modern dwellings. The eta coefficient here becomes rather strong. Residential areas with 15% or more of the dwellings classed as non-modern seem to be more exposed to vandalism than areas with a lower rate.

6.4 The Size of the Dwellings in the Residential Areas

The size of the dwellings is the last variable used here to describe the physical environment. As already mentioned a large dwelling is defined as one including four or more rooms and a kitchen. These dwellings are mainly concentrated in residential areas with single houses. In residential areas with high-rise blocks the percentage of large dwellings is low (Sahlin 1980).

The large dwellings in the research district make up 17% of all

the dwellings. 60% of the dwellings in the zero vandalism group (composed mainly of one-family houses) are defined as large. The other three vandalism groups have a much lower percentage of large dwellings, Table 6.2.

Table 6.2 Large dwellings

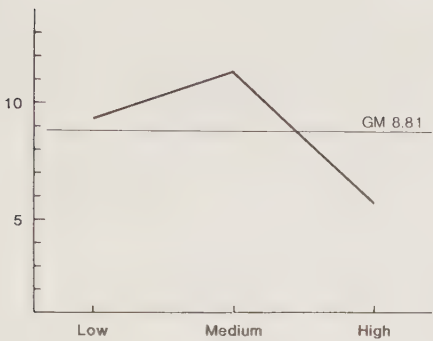
Vandalism groups	Large dwellings	
	%	N
Zero	60	2,964
Low	19	10,035
Intermediate	13	5,941
High	15	2,557
Total	17	21,497

6.4.1 Vandalism by Large Dwellings

Large dwellings, as noted above, are mostly one-family houses and as was shown in Figure 6.1 the analysis of vandalism by one-family houses indicated a curvilinear relationship. Figure 6.4 presents the analysis of vandalism by large dwellings and it also shows a curvilinear relationship with vandalism.

Figure 6.4 Vandalism by large dwellings

Grand mean 8.81



Category	N	Unad-justed	Limits %
Low	76	.50	<10
Medium	78	2.57	10-55
High	67	-3.05	55>

Eta: .22
Sign: .005

The variables describing the physical environment have, with one exception, been curvilinear and difficult to interpret. It is only the variable "non-modern dwellings" which has shown a linear and positive relation with vandalism.

6.5 Vandalism by Physical Environmental Factors

As the variables, "one-family houses" and "multi-storey blocks", measure the same thing, we shall here use only the variable "percentage of dwellings in multi-storey blocks". However, this variable includes both rented dwellings and dwellings belonging to a tenant-owners' association. It is assumed that it is of importance for the analysis if a dwelling is owner occupied or rented. Ownership is treated as a social variable and analyzed in the next chapter. Despite this it has been thought valuable to make this distinction in the analysis of dwellings in multi-storey blocks and construct a new variable named "rented dwellings in multi-storey blocks" which will be used in the following analyses of the physical environment. The first analysis shows vandalism by rented dwellings in multi-storey blocks and non-modern dwellings, Table 6.3.

Table 6.3 MCA of vandalism by rented dwellings in multi-storey blocks and non-modern dwellings

Grand mean 8.81

Variables	N	Unadjusted	Eta	Adjusted for independents	Beta	Sign
Rented dwellings in multi-storey blocks:						
Low	74	-4.53		-3.32		
Medium	73	-2.32		-2.98		
High	74	6.82		6.26		
			.47		.43	.000
Non-modern dwellings:						
Low	68	-3.16		-3.17		
Medium	96	-1.58		-.86		
High	57	6.43		5.23		
			.37		.31	.000
Multiple R squared					.313	
Multiple R					.559	

Residential areas with rented dwellings in multi-storey blocks of low quality were indicated by Newman (1973) as being a breeding ground for criminality and social problems. As previously mentioned the older rented dwellings in multi-storey blocks are located in the areas with a high level of vandalism in the centre of the city. This analysis explains as much as 31% of the variance of vandalism in the residential areas. Both the variables are linear when unadjusted and remain positive linear when mutually controlled. However, a significant interaction between them is indicated. To elucidate how the variables interact the effects of the significant interaction were studied, Table 6.4.

Table 6.4 A check of interaction of rented dwellings in multi-storey blocks and non-modern dwellings (mean values and number of residential areas)

Variables		Non-modern dwellings		
Rented dwellings in multi-storey blocks		Low	Medium	High
	Low	3.70	4.41	5.96
		(27)	(41)	(6)
	Medium	4.57	6.86	7.39
		(18)	(30)	(25)
	High	8.76	12.29	24.92
		(23)	(25)	(26)

In this analysis the variables show the expected tendency, i.e. in residential areas with a high percentage of rented dwellings the percentage of non-modern dwellings is highest. This indicates that the interaction between rented dwellings in multi-storey blocks and non-modern dwellings does not seem to make the MCA analysis meaningless or misleading.

The MCA analysis of vandalism by rented dwellings in multi-storey blocks and large dwellings shows a similar significant interaction between the independent variables. In this analysis, "rented dwellings in multi-storey blocks" even increases the correlation coefficient from .47 to .51 while the variable "large dwellings" decreases from .22 to .13. As was shown in Figure 6.4 the relationship of "large dwellings" is curvilinear when unadjusted but when adjustments are made for rented dwellings in multi-storey blocks it becomes positive-linear. The analysis explains 24% of the variance in the rate of vandalism. "Rented dwellings in multi-storey blocks" also remains positive-linear when adjusted for large dwellings.

An MCA analysis of vandalism by rented dwellings in multi-storey blocks, non-modern dwellings and large dwellings explains 33% of the variance in the rate of vandalism in the residential areas. Table 6.5.

Table 6.5 MCA of vandalism by rented dwellings in multi-storey blocks,
non-modern dwellings and large dwellings

Grand mean 8.81

Variables	N	Unadjusted	Eta	Adjusted for independents	Beta	Sign
Rented dwellings in multi-storey blocks:						
Low	74	-4.53		-3.85		
Medium	73	-2.32		-2.85		
High	74	6.82		6.66		
			.47		.45	.000
Non-modern dwellings:						
Low	68	-3.16		-2.94		
Medium	96	-1.58		-1.06		
High	57	6.43		5.28		
			.37		.31	.000
Large dwellings:						
Low	76	.05		-1.70		
Medium	78	2.57		.78		
High	67	-3.05		1.02		
			.22		.12	.115
Multiple R squared					.325	
Multiple R					.570	

This analysis also indicates interaction between "rented dwellings in multi-storey blocks" and "non-modern dwellings" and between "rented dwellings in multi-storey blocks" and "large dwellings", but not between the variables "non-modern dwellings" and "large dwellings". A check of interaction of the variables "large dwellings" and "rented dwellings in multi-storey blocks" indicates a curvilinear relationship which makes this MCA analysis meaningless.

"Large dwellings" is not significant and seems to extend the analysis only marginally (cf Table 6.3). The interaction between "non-modern dwellings" and "rented dwellings in multi-storey blocks" has already been discussed above.

6.6 Summary

In this chapter the hypothesis of the physical environment has been analyzed. As there are no variables measuring the physical environment's influence on the individuals' proneness to commit acts of vandalism, the analysis has been limited to the aggregated level.

The analyses have indicated that residential areas with a high percentage of rented dwellings in multi-storey blocks are most exposed to cases of vandalism. In residential areas which also include a high percentage of non-modern dwellings the rate of vandalism seems to increase. These results are in accordance with Newman's (1973) findings on vandalism-exposed residential areas.

Another circumstance (which can be seen in Map 3.1) is the concentration of cases of vandalism to the older central and commercial parts of the city. Earlier Faris and Dunham (1960) and Shaw and McKay (1969), among others, have demonstrated that a high rate of delinquency is typical of these parts of cities. Opportunities for creating defensible space and informal social control are also more difficult in these areas according to Newman (1973).

To conclude, one can say that the physical environment extended the explanation of variance in the rate of vandalism compared to that provided by population composition, but the explanation is still incomplete. In the next chapter the hypothesis of the social environment will be tested to elucidate whether this factor extends the explanation of variance in the rate of vandalism in residential areas.

7. THE SOCIAL ENVIRONMENT OF THE RESIDENTIAL AREAS

The hypothesis of the social environment suggests that mechanisms such as the geographical stability of residents, traditions and subcultural factors, social relations, social control and kinds of ownership of the dwellings might be able to explain variance in the rate of vandalism in residential areas.

The variables used in this study to describe factors in the social environment are residents moving out of the residential areas, vacant dwellings and residents not registered with the parish. In Sweden residents must be registered in a parish and the registration year begins on the first of November each year. Thus if a resident lives less than a year in the same dwelling, reckoned from November, he will not be registered at this dwelling but at the previous dwelling. These variables measure the geographical stability of the residential areas. The variables describing the social status of the areas are income, occupation and public assistance. Ownership of dwellings is demonstrated by tenants belonging to a tenant-owners' association, rented dwellings in council houses (mostly in high rise blocks) and other rented dwellings in multi-storey blocks.

7.1 The Geographical Stability of the Residential Areas

In this section the level of geographical stability of the different vandalism groups in the research district will be discussed. The level of geographical stability may be seen as indicating how well the social environment, the physical environment and the population interact. It is supposed that in residential areas with high stability these factors are well adapted to each other while in residential

areas with high geographical mobility one or two of the factors interact deficiently. Geographical mobility is only measured through residents moving out of or into the areas and not by mobility occurring within the housing areas.

In the research district as a whole in 1976 15% of the residents moved in while 17% moved out of the housing areas. The distribution of the mobility of the different vandalism groups is presented in Table 7.1. The most noticeable difference between the influx and outflow is in the high vandalism group where five per cent more moved out than moved in.

To study the geographical stability of the residential areas it is supposed to be more reliable to measure the proportion of residents moving out of the residential areas than the percentage of residents moving into them. A circumstance which makes it difficult to use percentage of residents moving into the areas is that parts of the residential areas are newly-built with "first" residents moving into them.

Table 7.1 Geographical mobility in the vandalism groups during 1976 (%)

Vandalism Group	Residents moving into the areas	Residents moving out of the areas	Vacant dwellings	Residents not registered with the parish
Zero	8	9	3	2
Low	12	13	0.5	6
Intermediate	17	20	4	6
High	24	29	8	8
Total %	15	17	3	3
" N	34,169	39,804	3,687	6,540

Percentually the high vandalism group has the highest rate of residents leaving the area while the zero vandalism group and the low vandalism group have the lowest figures, (Table 7.1). The low figures in the zero and low vandalism groups are supposed to have connections

with the fact that in these areas most of the dwellings are owner occupied. Those who choose to own their dwellings probably plan to stay in the area longer. Later it will be argued that high mobility can cause problems for social relations and the opportunities for establishing social control in residential areas.

Another variable, which is also considered as measuring the geographical stability of the residential areas, is the average percentage of dwellings which are vacant during a year. This variable is supposed to reflect a residential areas' attractiveness, i.e. a high percentage of vacant dwellings indicates a low level of attraction and vice versa. In the research district a mean three per cent of all the dwellings were vacant during 1976. Interestingly, however, the low vandalism group had only a half per cent of the dwellings vacant, (Table 7.1).

The third variable measuring the geographical stability of the residential areas is the proportion of residents not officially registered with the parish. It can be seen in Table 7.1, that three per cent of the residents were not registered with the parish in 1976. The variations are most obvious between the zero vandalism group and the other vandalism groups. Two per cent of the residents in the zero vandalism group were not registered with the parish. In the high vandalism group the figure is, percentually, four times greater.

To summarize the description of the residential areas' geographical stability, it can be noted that the areas in the zero vandalism group are supposed to have a stable population while the contrary is true of the areas in the high vandalism group. A question is, then, if this relationship will also persist when controlling for other factors. We should also consider the meaning of high mobility in residential areas. For instance, it is supposed that the social control mechanisms will decrease or disappear with a high level of mobility with residents perhaps becoming strangers to each other in these areas. In addition, it is supposed that one is more careful about things one plans to use for a longer time so that, in this case, informal social control will probably be more highly developed in areas with low mobility than in areas with high mobility. Analysis of geographical stability in the residential areas will only be made on the aggregated level due to lack of data at the individual level.

7.1.1 Vandalism by Geographical Stability

One may assume that in residential areas where a majority of the residents remain in the area for several years it is easier for the residents to get acquainted and to establish social relations. It is also possible that they develop a sense of responsibility for their housing areas and try to protect them from destruction and law-breaking actions. This concern for, and care of, the residential area by the residents is presumably more difficult to establish in areas with a high mobility, as well as working for a more stimulating physical and social environment.

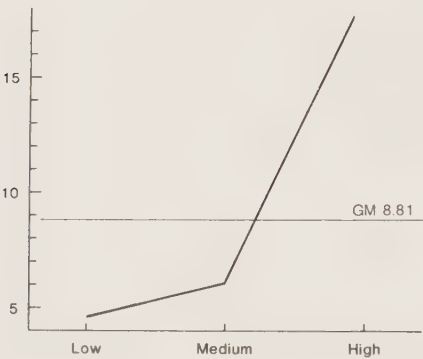
Social control, which is supposed to have some influence on children's and young adolescents' proneness to commit acts of vandalism, is also supposed to be lacking in residential areas where the residents change continuously. Social contact among the residents might be an essential factor in attempts to protect their area from destructive actions.

The large-scale high rise residential areas built during the 1960's and the 1970's, however, do not facilitate social relations and contact among the residents. Anonymity might be increased by the fact that most people are at work during the day and because the residents are not dependent on each other or in need of neighbourly help. Few residential areas provide activities which would give the residents reasons for leaving their own dwellings in the afternoons and in the evenings to meet other residents. It is also possible that anonymity among the residents differs according to age, for instance adolescents will probably be less isolated than old or middle aged residents. Residents with children will probably experience less anonymity in the area than residents without children (Daun 1974a).

From Table 7.1 we saw that the variable "percentage of residents moving out of the residential areas" has a positive linear relationship with vandalism. In Figure 7.1 the same thing is demonstrated but now in the form of the mean rate of vandalism in areas with differing mobility. Residential areas with 20% or more of the residents moving out have the highest positive deviation from the grand mean. The correlation coefficient became strong in this analysis.

Figure 7.1 Vandalism by residents moving out of the residential areas

Grand mean 8.81



Category	N	Unad-justed	Limits %
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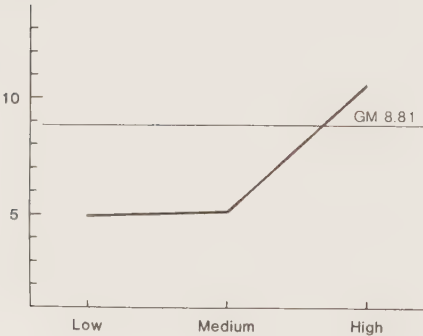
Low	73	-4.19	<10
Medium	86	-2.74	10-20
High	62	8.73	20>

Eta: .53
Sign: .000

In the analysis of the relationship of vandalism by vacant dwellings there is, as in the preceding analysis also a positive linear relationship. The eta coefficient is strong (Figure 7.2).

Figure 7.2 Vandalism by vacant dwellings

Grand mean 8.81



Category	N	Unad-justed	Limits %
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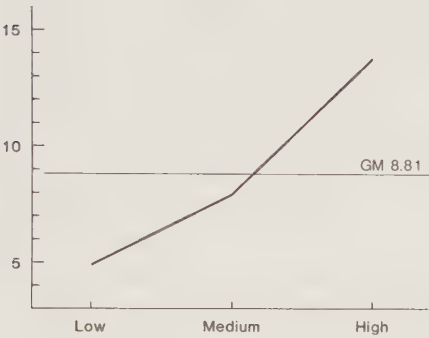
Low	83	-3.86	<0
Medium	58	-3.71	0-1
High	80	6.69	1>

Eta: .48
Sign: .002

The third variable, residents not registered with the parish, also shows a positive linear relationship though not as strong as that for the other two variables (Figure 7.3). The eta coefficient is rather strong but the relationship is not significant.

Figure 7.3 Vandalism by residents not registered with the parish

Grand mean 8.81



Category	N	Unad-justed	Limits %
Low	90	-3.93	<2
Medium	51	-.90	2-5
High	80	5.00	5>

Eta: .38
Sign: .260

These analyses have indicated that, at the aggregate level, there exists a positive relationship between vandalism and the geographic stability variables. The relationships have been strong or rather strong. This might indicate that areas with high mobility create the conditions for the occurrence of vandalism. However, it is difficult to know how these factors interact and whether mobility is a cause or an effect of a high level of vandalism or even if there is another factor making the relation spurious. In the next part of the chapter the social status variables will be described and analyzed.

7.2 The Social Status of the Residential Areas

The variables describing the social status of the residential areas are income, occupation and public assistance. The variable "low income" refers to households with a net income for 1976 of less than 60.000 SEK (approximately £5,000 at 1984's value). The variable "blue collar workers" is based on the percentage of male residents working within manufacture. Earlier studies have shown that this category can be used as an indicator of social status as the great majority in it belong to the working class (Lindberg 1982). Within this category, however, more skilled groups are also included, such as formen. It was not possible from the public statistics to separate out the more skilled groups. This variable is, therefore, somewhat difficult to

interpret. Finally, the variable "public assistance" shows the proportion of households which received economic help from the social authorities during the research year.

Table 7.2 The distribution of income, occupation and public assistance in the different vandalism groups (%)

Vandalism group	Low income <60.000	Blue collar workers	Households receiving public assistance
Zero	56	19	1
Low	67	28	3
Intermediate	74	31	7
High	78	31	11
Total %	70	28	6
" N	102,600	30,179	11,356

As many as 70% of the households had a net income of less than 60,000 SEK in 1976. The proportion is largest in the high vandalism group and lowest in the zero vandalism group (Table 7.2). However, it is supposed that the figure in the zero vandalism group as well as that in the low vandalism group might be too high due to the fact that under the Swedish tax system house owners who are repaying loans for their house purchase may reduce their level of taxable income accordingly. The result is that in the statistics they are shown to have a lower net income than is actually the case, thereby confounding them with those earners whose total taxable income is actually at that (lower) level. In the zero and the low vandalism groups of residential areas a high percentage of the dwellings are, as has already been shown, owner occupied (Table 6.1).

To describe the social status of the residential areas the income variables are not sufficient. Another variable to be considered is occupation, indicated by the number of men working in manufacture (Table 7.2). For the whole research district 28% of the male workers work in some kind of manufacture. Among the different vandalism groups the main difference is between the zero vandalism group and the other

groups. The zero vandalism group has the lowest percentage of the income variable and the occupation variable. However, the correlation between blue collar workers and low income is only .52. As the occupation variable only includes male workers and as it is difficult to decide a households' real socio-economic status the variables can be seen only as indicating a tendency for higher social status in the zero and low vandalism groups and lower social status in residential areas with a higher level of reported cases of vandalism.

The third variable indicating the social status of the residential areas is public assistance (Table 7.2). About six per cent of the households in the city were receiving some form of public assistance. This figure also includes help to persons temporarily resident in the city. The households receiving public assistance are most numerous in the intermediate and high vandalism groups. This seems to strengthen the tendency for the residential areas with a large number of cases of reported vandalism to have a lower socio-economic status.

To summarize the description of the social status of the residential areas, it has been shown that there exist differences between the vandalism groups. The differences must be interpreted with care because of the construction of the variables "income" and "occupation". However, it has been shown that social status is highest in residential areas with none, or a minor share, of the police-reported cases of vandalism. In the following section the reported vandals' socio-economic status will be discussed.

7.2.1 The Social Status of the Vandals

Vandalism is supposed to be a crime which is not only restricted to low social status youth but which is also attractive to middle-class youth (Richards 1979). It has also been noted in a Swedish study (SOU 1974:31), as well as in other studies (Cohen 1968), that youths who commit vandalism need not be delinquent in other situations, therefore, their vandalism will not predict anything concerning future delinquency.

In the following the socio-economic status of the reported vandals (N=455) will be described. The findings indicate that the offenders reported for acts of vandalism during 1976, with only a few exceptions, had a low social status.

If one considers the work situation, we see that 43% had a permanent job. Another 32% of the vandals had no permanent work and were not going to school at the time they committed the acts of vandalism. 22% were still at school and nearly 3% had left regular work. In other words, 68% of the reported vandals had some form of regular activity during the day.

The police reports also give information for 425 individuals concerning their degree of education. 22% of the offenders had only compulsory school education, (up to the ninth grade). A further 39% had compulsory school plus some form of work experience, mainly on the blue collar level. Only 14% of the reported vandals had any form of education or work experience above the compulsory school level or above the blue collar level. 24% of the reported offenders were still at school and 1% were children not yet of school age.

Among the 14% of offenders who had some form of education or work experience above the compulsory school or the blue collar level are those who reported that they were "owners of a business enterprise". In most of these cases it is unsure if a company existed in any legal sense; none of the reports named them and none of the entrepreneurs mentioned an educational level above the ninth grade.

Among the unemployed offenders, 21% were aged between sixteen and twenty years and a further 18% were aged from twenty-one to twenty-four years. The percentage of the unemployed offenders twenty-five or older was 61%. Among the reported individuals with permanent work who committed acts of vandalism, 53% were twenty-five or older. 28% were between the ages sixteen and twenty and 19% were between twenty-one and twenty-four.

If one compares these results with the figures for the whole of Sweden, we find that in 1976 unemployment was 1.6% for all registered persons in the labour market. For the age interval sixteen to twenty the corresponding figure for 1976 was 3.7%. Among the reported offenders aged from sixteen to twenty 29% were unemployed. The figure for the whole country for people twenty-five or older varies between 1.1% and 2.0% and for the reported vandals the corresponding figure was 40% unemployed. Even if the figures for unemployment can have different bases for calculation, a great difference nevertheless emerges between the reported offenders and others of working age.

In the age group twenty-one to twenty-four years, 34% of the offenders reported for acts of vandalism had received only compulsory school or less. The corresponding figure for the whole country for the

age group twenty to twenty-four was 28% in 1979. The vandals in this age group who had reported any additional education made up 18% while 48% reported some form of trade education above the ninth grade; the figure for the whole population, twenty to twenty-four years is 72% (Perspectives on Swedish Welfare 1982).

These results indicate that the individuals reported for acts of vandalism were, to a greater extent, unemployed, and had a lower level of education than is the case for the whole population.

It has been demonstrated in this study that among the vandals who had left the compulsory school nearly all of them could be defined as belonging to the low social class. The social class membership of the vandals still in school could not be classified because the police data did not provide this information.

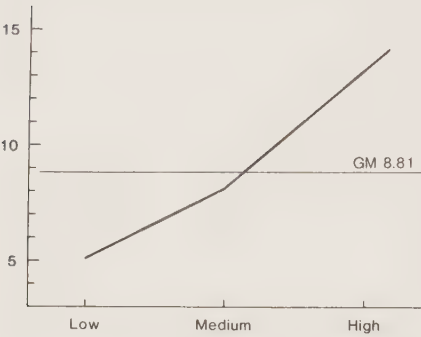
How then will the socio-economic status of the residential areas at the aggregated level vary when related to vandalism? A fact to elucidate is whether these results are based on an individual relation, i.e. an effect of the population composition or whether there is a group effect i.e. a social environmental effect (cf 3.1.2). One can assume that low status residential areas with a high percentage of adolescents have more cases of vandalism because of the concentration of youth. However, this may provide the inspiration for other groups of adolescents to visit the area thereby increasing the area's level of vandalism.

7.2.2 Vandalism by Social Status

In this part the social status variables' relationship with vandalism will be analyzed. First vandalism by low income is analyzed. The analysis indicates a positive relationship between vandalism and low income. The eta coefficient becomes rather strong, Figure 7.4.

Figure 7.4 Vandalism by low income

Grand mean 8.81



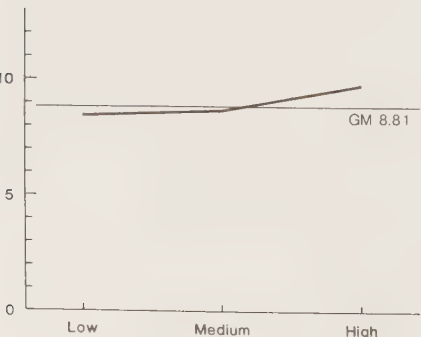
Category	N	Unad-justed	Limits %
Low	68	-4.05	<60
Medium	86	-1.19	60-75
High	67	5.64	75>

Eta: .37
Sign: .008

The analysis of vandalism by blue collar workers shows a relationship of no effect. This is a result contrary to what was expected and what was indicated on the individual level. This might, however, also demonstrate that the variable is not valid for what it is supposed to measure.

Figure 7.5 Vandalism by blue collar workers

Grand mean 8.81



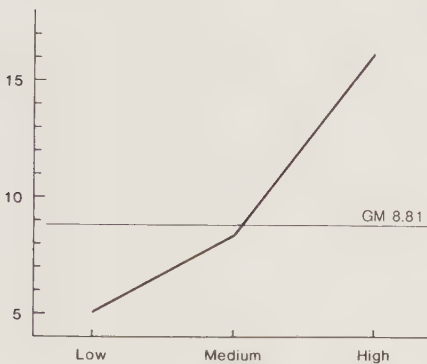
Category	N	Unad-justed	Limits %
Low	79	-.35	<20
Medium	92	-.19	20-35
High	50	.90	35>

Eta: .05
Sign: .011

The third variable, households receiving public assistance, however, shows a strong relation with vandalism, Figure 7.6.

Figure 7.6 Vandalism by households receiving public assistance

Grand mean 8.81



Category	N	Unad-justed	Limits %
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Low	98	-3.78	<4
Medium	69	-.44	4-9
High	54	7.42	9>

Eta: .43
Sign: .000

In two of the analyses a positive relation to vandalism was indicated with "low income" and "households receiving public assistance". It is interesting to note the correspondence between the individual and the ecological correlations. The individual data demonstrated that the police-reported vandals with known social membership class (43%) could be placed in the low social class. The ecological correlations show that the rate of vandalism might be influenced by the residential areas socio-economic status. Whether this is to be considered as strengthening the population hypothesis or the social environmental hypothesis is, however, an open question which cannot be solved in this study. The fact that there probably exists a correspondence in sign between the individual correlation (which is only estimated here from the data on vandals known to the police) and the ecological correlation makes the population hypothesis as probable an explanation as the environmental hypothesis.

An exception, however, is the correlation of the variable "blue collar workers" where the correlations of the aggregate level indicated no effect while on the individual level a positive relation between the adult and old vandals' social class membership and vandalism was shown. Residential areas which are characterized as

working areas with the variable "blue collar workers" seem not to have any significant influence on the rate of vandalism. However, it has been pointed out that this variable is probably a bad measure of the social status of residential areas.

7.3 Vandalism by Ownership of Dwellings

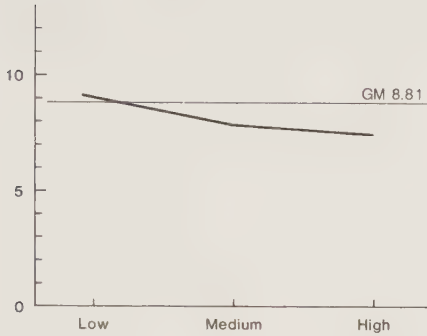
The kind of ownership of dwellings in residential areas is supposed to have importance for the occurrence of vandalism. It is assumed that residential areas with a high percentage of owned dwellings have a lower rate of vandalism than areas with mainly rented dwellings since damage directly causes these persons expense.

The description of the types of ownership and their distribution in the different vandalism groups was presented in section 6.1. In the present section the ownership of the dwellings will be related to vandalism.

The analyses are presented in Figures 7.7 to 7.9. In the first analysis the relationship of vandalism with rented dwellings in council houses is shown, (Figure 7.7). The analysis indicates a relation of no effect. This is interesting because a not uncommon view is that the problem of vandalism is most noticeable in residential areas consisting mostly of council houses. The relationship however is not significant and the distribution of housing areas in the categories is unequal.

Figure 7.7 Vandalism by dwellings in council houses

Grand mean 8.81



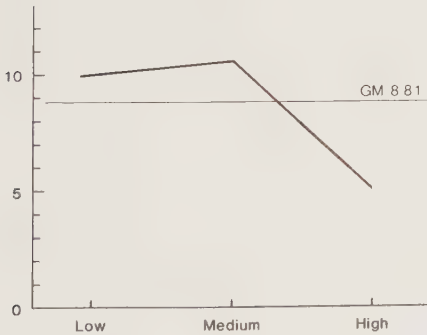
Category	N	Unad-justed	Limits %
Low	169	.35	<0
Medium	26	-.94	0-25
High	26	-1.33	25>

Eta: .06
Sign: .664

Vandalism by dwellings belonging to a tenant-owners' association becomes slightly curvilinear, (Figure 7.8). If one, on the other hand, analyzes vandalism by rented dwellings, including dwellings owned by the municipality, a positive linear relation results, (Figure 7.9).

Figure 7.8 Vandalism by dwellings belonging to a tenant-owners' association

Grand mean 8.81

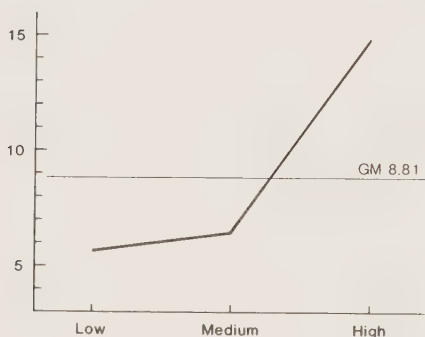


Category	N	Unad-justed	Limits %
Low	113	1.13	<0
Medium	51	1.71	0-35
High	57	-3.78	35>

Eta: .21
Sign: .006

Figure 7.9 Vandalism by rented dwellings

Grand mean 8.81



Category	N	Unad-justed	Limits %
Low	66	-3.18	<25
Medium	86	-2.37	25-75
High	69	6.00	75>

Eta: .39
Sign: .200

These analyses of the relationship between vandalism and ownership have indicated that there is a positive linear relationship between vandalism and rented dwellings. To rent a dwelling or to own one seems to influence the rate of vandalism. Note, however, the fact that the residents' inclination to report cases of vandalism might be dependent on their interest in the damaged property (cf 3.2).

7.4 Vandalism by Social Environmental Factors

In the preceding parts of the chapter it was demonstrated that geographical stability, social status and ownership of dwellings seems to influence the rate of vandalism in residential areas. As it has been indicated that geographical stability might be of essential importance, the following analyses will begin with this factor as a base.

The three variables measuring geographical stability are "residents moving out of the residential areas", "vacant dwellings" and "residents not registered with the Parish". It is suggested that they measure more or less the same thing and that the variable "residents moving out of the residential areas" is the most reliable. Thus, this variable will be used in the analyses.

If low geographical stability is positively related to

vandalism, will then a low social status profile in the residential areas increase this tendency? In the MCA analysis of vandalism by residents moving out of the residential areas and income it is shown that the relationship between vandalism and residents moving out remains strong when adjusted for income. The income variable, however, gives a very low coefficient when adjusted for residents moving out of the areas (.05, nearly a no effect relationship and not significant).

The same pattern is shown in the MCA analysis of vandalism by residents moving out of the residential areas and percentage of households receiving public assistance, Table 7.3.

Table 7.3 MCA of vandalism by residents moving out of the residential areas and households receiving public assistance

Grand mean 8.81

Variables	N	Unadjusted	Eta	Adjusted for independents	Beta	Sign
Residents moving out of the residential areas:						
Low	73	-4.19		-3.40		
Medium	86	-2.74		-2.47		
High	62	8.73		7.43		
			.53		.45	.000
Households receiving public assistance:						
Low	98	-3.78		-.93		
Medium	69	-.44		-.26		
High	54	7.42		2.03		
			.43		.11	.380
Multiple R squared					.284	
Multiple R					.533	

The variable "blue collar workers" will not be used in a corresponding MCA analysis because it has been assumed that it is less valid as a measurement of the status of the residential areas.

The MCA analyses of geographical stability and the social status of the residential areas have shown that it is the geographical stability variable which seems to be strongest while the other variables' relationship with vandalism decreases noticeably or becomes spurious when adjusted for the geographical stability variable.

An MCA analysis of vandalism by residents moving out of the residential areas, income, and households receiving public assistance gave no further explanation for variance in the rate of vandalism. Only the geographical stability variable is significant in this analysis.

The relationship between geographical stability and ownership of dwellings indicates that the negative relationship between vandalism and dwellings in council houses persists when adjusted for residents moving out of the residential areas. Both the correlation coefficients increase despite the fact that there exists no significant interaction between these independent variables, (Table 7.4).

Table 7.4 MCA of vandalism by residents moving out of the residential areas and dwellings in council houses

Grand mean 8.81

Variables	N	Unadjusted	Eta	Adjusted for independents	Beta	Sign
Residents moving out of the residential areas:						
Low	73	-4.19		-4.71		
Medium	86	-2.74		-2.58		
High	62	8.73		9.12		
			.53		.55	.000
Dwellings in council houses:						
Low	169	.35		.85		
Medium	26	-.94		-1.63		
High	26	-1.33		-3.91		
			.06		.16	.030
Multiple R squared					.301	
Multiple R					.548	

The geographical stability variable remains positive here, while the variable tenants belonging to a tenant-owners' association becomes negatively related to vandalism, (Table 7.5).

Table 7.5 MCA of vandalism by residents moving out of the residential areas and tenants belonging to a tenant-owners' association

Grand mean 8.81

Variables	N	Unadjusted	Eta	Adjusted for independents	Beta	Sign
Residents moving out of the residential areas:						
Low	73	-4.19		-4.46		
Medium	86	-2.74		-2.43		
High	62	8.73		8.63		
			.53		.52	.000
Tenants belonging to a tenant-owners' association:						
Low	113	1.13		1.34		
Medium	51	1.71		-1.02		
High	57	-3.78		-1.75		
			.21		.13	.074
Multiple R squared					.295	
Multiple R					.543	

Of more interest is the fact that the positive relation between vandalism and rented dwellings disappears when "rented dwellings" is adjusted for "geographical stability". The relationship seems to have been mainly spurious and is now extremely weak (Table 7.6).

Table 7.6 MCA of vandalism by residents moving out of the residential areas and rented dwellings

Grand mean 8.81

Variables	N	Unadjusted	Eta	Adjusted for independents	Beta	Sign
Residents moving out of the residential areas:						
Low	73	-4.19		-3.62		
Medium	86	-2.74		-2.46		
High	62	8.73		7.68		
			.53		.46	.000
Rented dwellings:						
Low	66	-3.18		-.36		
Medium	86	-2.37		-1.18		
High	69	6.00		1.82		
			.39		.12	.199
Multiple R squared					.288	
Multiple R					.537	

To summarize, one could say that the variable geographical stability still seems to be of the greatest importance in explaining variance in the rate of vandalism. In all the MCA analyses the geographical stability variable remains linear when adjusted for the other independent variables. It is also only weakly influenced by the social status and the ownership variables. The strong correlation with vandalism persists. These MCA analyses explain about 30% of the variance in the rate of vandalism in residential areas. An interesting fact to note is that social status and ownership of the dwellings seem to have no or only a minor influence on the rate of vandalism when adjusted for geographical stability.

7.5 Summary

In this chapter the hypothesis of the social environment has been discussed. The difficulties in deciding whether the demonstrated correlation really is a social environmental effect or if it is instead a population compositional effect has been pointed out before in this chapter. This problem cannot be solved within this study. The individual correlations have indicated a positive relation between low social status and reported vandals. These results correspond with the simple ecological correlations, except for the blue collar variable where a no effect relation was indicated. With respect to geographical stability and ownership of the dwellings, data at the aggregate level only were available. It was shown that geographical stability was negatively related to vandalism. "Rented dwellings" was positively related to vandalism.

The MCA analyses indicated that geographical stability persists as an essential factor in explaining variance in the rate of vandalism in residential areas. The relationship between vandalism and social status and ownership of dwellings disappears when adjusted for geographical stability, however. A conclusion can be that in respect of the social environment an essential factor in explaining variance in the rate of vandalism is the area's level of geographical stability, where low stability indicates high level of vandalism and vice versa. In the next chapter the combination of the population composition, the physical, and the social environmental factors of the residential areas will be analyzed.

8. THE COMBINATION OF POPULATION AND ENVIRONMENTAL FACTORS

8.1 Introduction

In the preceding chapters the influence of population composition, physical environment and social environment on the rate of vandalism was discussed. It has been demonstrated that these factors explain 20 to 30% of the variance in the rate of vandalism in residential areas. These factors cannot be seen as isolated from each other or static. There is assumed to be a continuous interaction between them. This chapter will concentrate on an analysis of how these factors influence one another and how this interaction explains the rate of vandalism in residential areas.

The combination of these factors was demonstrated by Jane Jacobs (1961; cf 2.5). She found three qualities important for an area to be safe for its users: clearly separated public and private space, many "eyes upon" and users of the streets, parks, residential areas etc. It is also essential that residents, businessmen and others know who is a stranger and who is a resident. Social control mechanisms can then be more highly developed. Nevertheless, children and adolescents know where they are beyond surveillance and can play their pranks.

It has been indicated that social control is an essential variable in the occurrence of vandalism. Jacobs has found that high population density can be related to greater social control if the residential area has geographically stable inhabitants. Simmel (1964), Wirth (1938) and Milgram (1973) demonstrate, however, that if social control mechanisms are weak in urban environments then residents will remain strangers to one another. It is commonly supposed that a high population density gives less social control, but Jacobs argues that, when residents have an interest in protecting their property, the result is the development of social control (with the presumption that

geographical mobility is low). Simmel and the others pointed out that social contact and relations between the residents decreased with higher population density. In this situation social control mechanisms will be weak and not prevent lawbreaking activities such as vandalism. Is geographical stability then an essential factor in this study?

8.2 Vandalism by Geographical Stability, Type of Ownership and Dwelling

A conclusion which can be made from the preceding analyses of this study is that geographical stability, measured by the variable "residents moving out of the residential areas", was strongly and positively related to vandalism. The geographical stability variable has also demonstrated noticeable influence on the other independent variables causing changes in their relationship with vandalism.

The preceding analyses have also shown that the variable "rented dwellings in multi-storey blocks" seems to be of importance in explaining variance in the rate of vandalism. The variable is constructed by type of dwelling-house and ownership of dwelling. To reveal how the variables describing geographical stability and type of dwelling are related to one another they will be analyzed together (Table 8.1).

Table 8.1 MCA of vandalism by residents moving out of the residential areas and rented dwellings in multi-storey blocks

Grand mean 8.81

Variables	N	Unadjusted	Eta	Adjusted for independents	Beta	Sign
Residents moving out of the residential areas:						
Low	73	-4.19		-2.80		
Medium	86	-2.74		-2.18		
High	62	8.73		6.32		
			.53		.38	.000
Rented dwellings in multi-storey blocks:						
Low	74	-4.53		-2.09		
Medium	73	-2.32		-1.24		
High	74	6.82		3.31		
			.47		.23	.009
Multiple R squared					.307	
Multiple R					.554	

The MCA analysis explains 31% of the variance in the rate of vandalism and demonstrates that both the variables remain linear and positively related to vandalism. However a significant interaction on .05 level between the independent variables is reported. In a check for the interaction effect it is shown that in one of the cells in the matrix only one residential area is included. The single residential area is included in the cell: "high percentage of residents moving out of the residential areas" and "low percentage of rented dwellings in multi-storey blocks". Notwithstanding this interaction effect it is suggested that the MCA analysis is valid. Note that the interaction disappears when a third variable is included in the analysis (cf

below).

These two variables, "residents moving out of the residential areas" and "rented dwellings in multi-storey blocks", seem to influence the variance in the rate of vandalism in residential areas and it is assumed that they describe essential factors which determine residents' attitude to areas. These two variables constitute the basic model upon which the following independent variables will be analyzed.

8.2.1 The Composition of the Population

The variables "young people" and "immigrants" were used to describe the composition of the population in the residential areas. "Young people" showed a negative relation with vandalism demonstrating that a high percentage of young people in an area does not enhance the level of vandalism. The MCA analysis of vandalism by residents moving out of the residential areas, rented dwellings in multi-storey blocks and young people explains 32% of the variance in the rate of vandalism. A comparison of Table 8.1 and Table 8.2 shows that the variable "young people" extends the analysis very little. In this analysis the variable "young people" becomes curvilinear when adjusted for the other independent variables.

Table 8.2 MCA of vandalism by residents moving out of the residential areas, rented dwellings in multi-storey blocks and young people

Grand mean 8.81

Variables	N	Unadjusted	Eta	Adjusted for independents	Beta	Sign
Residents moving out of the residential areas:						
Low	73	-4.19		-2.68		
Medium	86	-2.73		-2.12		
High	62	8.73		6.09		
			.53		.37	.000
 Rented dwellings in multi-storey blocks:						
Low	74	-4.53		-1.47		
Medium	73	-2.32		-1.31		
High	74	6.82		2.76		
			.47		.19	.042
 Young people:						
Low	71	4.79		2.04		
Medium	83	-1.77		-1.09		
High	67	-2.88		-.81		
			.32		.14	.086
Multiple R squared						.322
Multiple R						.568

An analysis including immigrants in the basic model does not increase the explanation of the variance in the rate of vandalism (Table 8.3).

Table 8.3 MCA of vandalism by residents moving out of the residential areas, rented dwellings in multi-storey blocks and immigrants

Grand mean 8.81

Variables	N	Unadjusted	Eta	Adjusted for independents	Beta	Sign
Residents moving out of the residential areas:						
Low	73	-4.19		-1.92		
Medium	86	-2.74		-2.30		
High	62	8.73		5.45		
			.53		.33	.000
Rented dwellings in multi-storey blocks:						
Low	74	-4.53		-2.02		
Medium	73	-2.32		-1.21		
High	74	6.82		3.22		
			.47		.22	.014
Immigrants:						
Low	79	-4.53		-1.45		
Medium	73	-.48		-.52		
High	69	5.70		1.11		
			.40		.11	.372
Multiple R squared					.314	
Multiple R					.560	

A strong positive relationship between vandalism and immigrants was indicated in Chapter 5. However, when the variable "immigrants" is adjusted for the other independent variables the relationship disappears. We may conclude, therefore, that "immigrants" is not an essential variable for explaining variance in the rate of vandalism. It is assumed that the high percentage of immigrants in these areas is

better explained through other factors such as socio-economic status (cf Bates and McJunkins 1962).

To summarize, the variables chosen to describe the population composition cannot be said to have enhanced the explanation of the variance in the rate of vandalism. The individual data showed that there is a positive relationship between vandalism and the presence of young people. No such relationship was found between vandalism and the presence of immigrants, except in the case of the Danes. On the ecological level none of the population variables have shown a positive relation with vandalism.

8.2.2 The Physical Environment

One of the variables describing the physical environment, "dwellings in multi-storey blocks", in combination with the social environmental variable "rented dwellings", is already included in the basic model. The other variables describing the physical environment "large dwellings" and "non-modern dwellings", will also be analysed in the model.

An analysis of the basic model, including large dwellings, explains as much as 34% of the variance in the rate of vandalism. The variable "large dwellings" changes from a curvilinear relation to a positive linear relation when adjusted for residents moving out of the residential areas and rented dwellings in multi-storey blocks. However, the analysis indicates a significant interaction between large dwellings and rented dwellings in multi-storey blocks, making this MCA meaningless.

The variable "non-modern dwellings" in a corresponding analysis increases the level of explanation to 36% (Table 8.4). The variable "rented dwellings in multi-storey blocks", however, shows a minor curvilinearity.

Table 8.4 MCA of vandalism by residents moving out of the residential areas, rented dwellings in multi-storey blocks and non-modern dwellings

Grand mean 8.81

Variables	N	Unadjusted	Eta	Adjusted for independents	Beta	Sign
Residents moving out of the residential areas:						
Low	73	-4.19		-2.17		
Medium	86	-2.74		-1.77		
High	62	8.73		5.01		
			.53		.30	.000
Rented dwellings in multi-storey blocks:						
Low	74	-4.53		-1.71		
Medium	73	-2.32		-1.97		
High	74	6.82		3.66		
			.47		.25	.002
Non-modern dwellings:						
Low	68	-3.16		-2.90		
Medium	96	-1.58		-.29		
High	57	6.43		3.94		
			.37		.25	.000
Multiple R squared					.361	
Multiple R					.601	

Table 8.4 indicates that residential areas which can be characterized as having a low level of geographical stability, dwellings rented mainly in multi-storey blocks and areas with a large proportion of dwellings classified as non-modern, are likely to have a high level of reported cases of vandalism.

The most important factors for the occurrence of vandalism seem to be geographical stability of residents and type of dwelling. The standard of the dwellings is also supposed to be an important factor for an area's level of vandalism. The residential areas with a high percentage of dwellings classified as non-modern are located in the central areas of the city.

8.2.3 The Social Environment

The social environment is described by the geographical stability variables, income, occupation, public assistance, and ownership of dwellings.

The model is now composed of the geographical stability variable, "residents moving out of the residential areas" and the variable "rented dwellings", in combination with the physical environmental variable, "dwellings in multi-storey blocks". This means that the other two variables measuring geographical stability, "vacant dwellings" and "tenants not registered at the living address" are excluded from the analyses as the variable, "residents moving out of the residential areas", is seen as the most valid measure of a residential area's geographical stability.

The MCA of vandalism by residents moving out of the residential areas, rented dwellings in multi-storey blocks and low income does not extend the explanation of the basic model. The income variable shows a relationship of no effect when adjusted for the other independent variables.

"Households receiving public assistance" indicates a relation of no effect when adjusted for "residents moving out of the residential areas" and "rented dwellings in multi-storey blocks". The same result is shown when the occupation variable "blue collar workers" is included in the analysis. The interaction between geographical stability and the occupation variable is significant and makes this MCA analysis meaningless.

To summarize, the variables describing the social environment have in two of the analyses increased the level of explanation of vandalism. The most important seems to be the geographical stability variable "residents moving out of the residential areas". The other variable which has extended the explanation is type of ownership. None of the other social environmental variables have further improved the

explanation. From the individual data it was noted that the reported vandals belonged to the lower social status levels of society, many of them were unemployed and living in low status residential areas (Chapter 7). These individual correlations were not demonstrated on the ecological level.

8.3 Summary

In this chapter the variables describing the population composition, the physical environment, and the social environment have been analyzed together to examine whether the interaction between them increases the explanation of variance in the rate of vandalism in residential areas. The MCA analysis of vandalism by residents moving out of the areas and rented dwellings in multi-storey blocks constituted the basic model for the analyses.

Of the independent variables tested in the basic model, only the variable "non-modern dwellings" increased the level of explanation. The inclusion of this variable, however, resulted in a minor curvilinear relation for the variable "rented dwellings in multi-storey blocks". This analysis explains 36% of the variance in the rate of vandalism in residential areas.

As none of the other variables increased the explanation of the rate of vandalism when included in the basic model, MCA analyses were performed only where it was necessary to control for the other independent variables. Of these analyses only the control for the variable "households receiving public assistance" influenced the model (Table 8.5), increasing the degree of variance explained to 38%. Except for the variable "non-modern dwellings", the correlation coefficients decrease and the variable "rented dwellings in multi-storey blocks" still shows a curvilinear relationship.

Table 8.5 MCA of vandalism by residents moving out of the residential areas, rented dwellings in multi-storey blocks, and non-modern dwellings with households receiving public assistance

Grand mean 8.81

Variables	N	Unad-justed	Eta	Adjusted for independents	Beta	Adj. for indep+cov.	Beta	Sign
Residents moving out of the residential areas:								
Low	73	-4.19		-2.17		-1.27		
Medium	86	-2.74		-1.77		-1.23		
High	62	8.73		5.01		3.21		
			.53		.30		.19	.000
Rented dwellings in multi-storey blocks:								
Low	74	-4.53		-1.71		-1.18		
Medium	73	-2.32		-1.97		-1.89		
High	74	6.82		3.66		3.04		
			.47		.25		.21	.002
Non-modern dwellings:								
Low	68	-3.16		-2.90		-3.20		
Medium	96	-1.58		-.29		.12		
High	57	6.43		3.94		3.62		
			.37		.25		.25	.000
Multiple R squared					.361		.383	
Multiple R					.601		.619	
Covariate raw regression coefficient					.276		.006	

The thesis of Jacobs that we should include population composition and environmental factors in analyzing causes of lawbreaking activities has in this study increased the explanation of variance in the rate of vandalism in residential areas. This study has indicated that areas which are characterized by high geographical mobility and a high proportion of rented and/or non-modern dwellings have a higher level of vandalism than areas where these factors are absent.

However, it does not seem possible in this study to extend the analysis and explanation of variance in the rate of vandalism in residential areas. In the final chapter the results and implications of this study will be discussed.

9. CONCLUDING DISCUSSION

9.1 Introduction

In this study the problem has been to find explanations for the variance in the rate of vandalism in residential areas. The empirical data have mainly been restricted to the ecological level where the units of analysis have been the different residential areas in the research district. The level of vandalism was calculated from police-reported cases during 1976, in relation to the number of residents in the areas.

The individual data included in the study are used only to illustrate the correlations at the individual level and correspondence or otherwise with the ecological correlations. The individual data are restricted to police-reported individuals suspected of acts of vandalism. Thus, it is not possible to generalize from these results to unreported vandals.

The analysis of the data was informed by three main hypotheses; the population composition hypothesis, the physical hypothesis and the social environmental hypothesis.

The concentration of the empirical data to the aggregated level made the analyses somewhat problematic. It was especially difficult to decide if the results indicated group effects or aggregated individual effects. This fact, as well as the lack of relevant individual data in some cases, made it difficult to decide whether effects should be referred to population composition factors or to social environmental factors.

In Chapter 2 theories of vandalism were discussed and it was noted that no general theory of vandalism exists. Theories of vandalism emanate from sociology, criminology and psychology. The

absence of a theory of vandalism has made it difficult to generalize from studies of vandalism. In many respects studies of vandalism are restricted to certain aspects or situations. This can, however, partly be explained by the fact that only towards the end of the 1960's was the crime of vandalism seen as an essential problem, worth preventing and finding explanations for, even if vandalism was not a new phenomenon at that time.

The next part of this chapter will be devoted to a discussion of the results of the study and possible implications of the findings. First some of the results related to the main approaches will be noted and thereafter the final model of the study will be presented.

9.2 Summary of the Results

9.2.1 The Population Composition of the Residential Areas

To measure the importance of the population composition for the rate of vandalism in residential areas the variables "young people" and "immigrants" were chosen (Chapter 5). On the aggregated level "young people" showed a negative relation while "immigrants" showed a positive relation with vandalism. The relationship demonstrated between vandalism and immigrants, however, disappeared when "immigrants" was adjusted for the other independent variables (Chapter 8).

It could be assumed that a high concentration of young people in a residential area could increase the area's level of vandalism. The results of this study, however, showed the reverse to be the case. To find out whether the negative relation between vandalism and young people depended on type of dwelling, residential areas with mainly single houses and with mainly high-rise blocks were analyzed separately. The analyses indicated that whether young people lived in multi-storey blocks or in one-family house residential areas was unimportant. Their relationship with vandalism didn't change. Is then the age of the residents not an important factor in explaining the rate of vandalism in residential areas?

If one considers the individual data there are indications that young people are proportionally most often reported for vandalism (Table 5.3). A comparison of the delinquent active age levels in this study with the figures for the whole country shows the same tendency (cf BRÅ-PM 1983:5). Hirschi and Gottfredson (1983) have studied the

relationship between age and crime. They note that the causes of crime are likely to be the same at any age.

"Age is correlated with important events thought to be related to crime, such as leaving school, marriage, and gainful employment, but its effects on crime do not appear to depend on these events. Age affects crime whether or not these events occur." (Hirschi and Gottfredson 1993:580).

Farrington (1979) found in a study of the influence that marriage has on individuals' delinquent behaviour, that

"Marriage has often been invoked as the reason for the observed decrease in convictions after age 18, and indeed as the most effective treatment for delinquency. The Cambridge study found that both official and self-reported delinquency decreased between 18 and 21. Men who married during this period were compared with those stayed single, to see if the married group decreased more. The groups didn't differ in official or self-reported delinquency at age 21, even after attempts were made to match them up to the date of the marriage." (Farrington 1979:314).

The individual data of this study showed a decrease in reported vandalism after the age of twenty (Table 5.3) and according to the quoted study this ought not to be a result of a change in civil status.

In longitudinal studies of self-reported and official crime rates it has been shown that vandalism does not seem to predict other delinquent activity among youths (SOU 1973:25; BRÅ 1982:5). Vandalism does not seem even to be the most common crime among youths. There might possibly be other factors influencing individuals to vandalize than to commit other forms of crimes. Youths might also commit acts of vandalism but not other crimes. However, we found in this study that it was common for older vandals also to have committed other crimes. A fact to note is that a high percentage of the cases of vandalism are supposed to be hidden and unreported, especially where middle-class youths' vandalism might be involved.

The result of the analysis of vandalism by immigrants at first shows a positive relation. Later this relationship became a relation of no effect when the other independent variables were included in the

analysis. This might indicate that immigrants live in residential areas with high levels of vandalism rather than being especially prone to vandalism. Bates and McJunkins (1962) have noted this phenomenon. Except for the Danes, the individual data do not indicate that immigrants are more prone than Swedes to commit acts of vandalism. Examination of the situation of immigrants in Sweden between 1967 and 1971 shows that their involvement in serious crime has increased more than has been the case for Swedes (Sveri 1980). These differences might be connected with immigrants' higher concentration in urban environments, perhaps indicating an acceleration effect. They often belong to low social status levels, where percentually the risk of being involved in lawbreaking is higher than in the higher social status levels (Sarnecki 1981). The problem of the criminality of second generation immigrants has not yet been studied systematically (Sarnecki 1981). It is a rather new problem for Sweden compared with the United States and Canada (Faris 1948).

The study has indicated that neither a concentration of young people nor of immigrants increases the rate of vandalism in residential areas. It is concluded that the population composition hypothesis cannot be confirmed in this study with the variables employed.

9.2.2 The Physical Environment of the Residential Areas

It was suggested that the physical environment, through its design and planning, influences individuals and gives opportunities for committing vandalism (Chapter 6). Essential for preventing vandalism and other crimes are opportunities for surveillance (Newman 1973). Design, in the form of private areas surrounding houses, or a restricted number of entrances to high-rise blocks decreases the chances for offenders to run away. Residents opportunities for, and interests in, watching over areas is also an important factor in preventing crime in residential areas according to Newman. However, a problem here is that many of the large housing projects are difficult to watch over because of their size. Another problem is the fact that many residents are at work during the day when much of the vandalism is supposed to be committed (cf Nilsson 1983). Newman points out the importance of social control for an area's level of vandalism. For Newman an area's level of social control depends largely on the

physical structure, the design of the area, while Shaw and McKay view an area's level of social control as depending rather on its social structure and social stability.

An essential result in this study, concerning the physical environment, is that it has been demonstrated that residential areas built with high-rise blocks are positively related to vandalism. Large parts of these housing projects were built during the 1960's and 1970's and created a new way of life in Sweden. In a small geographical area residents with heterogeneous backgrounds and interests were supposed to construct new traditions, roles and social relations where the physical design and planning of the area could not be said to facilitate such social activities. The social problems in the large housing projects were obvious early and they had already been documented in other countries at that time. It is assumed that the explanations accounting for the Swedish social problem areas are more comparable with British conditions than with the American, where economic forces can be the main cause of the status and standard of residential areas. The British and Swedish problem areas are mostly the result of planning and design, (Baldwin and Xanthos 1981). They are also mainly located in the outer areas of the cities.

To conclude, the results of the analysis of the physical environment indicate a concentration of reported cases of vandalism in the large housing projects, mainly in the outer areas of the city, and in residential areas with low standard dwellings located in the central parts of the city. These results are comparable with the findings of many other studies of criminality in urban environments (Faris and Dunham 1960; Jacobs 1961; Newman 1973; Shaw and McKay 1969; Werner 1964 etc.).

The importance of the physical environment in explaining variance in the rate of vandalism and other forms of lawbreaking is supposed to be dependent in many respects on the social environment of the area (cf Jacobs 1961; Milgram 1973; Simmel 1964; Wirth 1938). The interaction between the physical environment and the social environment will be discussed in section 9.3.

9.2.3 The Social Environment of the Residential Areas

The hypothesis of the social environment suggests that geographical stability, social relations, social control mechanisms, subcultures and subgroups are essential factors influencing an area's rate of vandalism (Chapter 7).

Theories of the social environment point to the importance of subcultures, and their influence on the social life of residential areas (Clinard and Wade 1958; Cohen 1964; Whyte 1961 etc.). From studies of self-reported vandalism it has been demonstrated that middle-class youth also seems to commit a noticeable proportion of the cases of vandalism (Barton Wise 1967; Empey and Erickson 1966; Hirschi 1969; Richards 1979 etc.). In this study, however, the reported vandals that it was possible to classify according to social status belonged, with few exceptions, to low social class levels.

Perhaps the most essential result of this study concerns the social environment in residential areas. The results have indicated that geographical stability is a factor which most strongly and essentially influences the rate of vandalism. Geographical stability is also assumed to control and influence many of the social relations, traditions and social control mechanisms of an area as well as its social status. In residential areas with high mobility it will be more difficult to establish social relations between the residents or an atmosphere of interest, care and responsibility for the area.

A factor which has also been noted as positively related to the rate of vandalism is ownership of dwellings. This factor was analyzed by type of dwelling (Chapter 6). It was suggested that property one owns will be more taken care of and protected from vandalism than public property. In addition, residents who own their dwellings have an interest in keeping up the status of the area in order to make it possible to sell at a profit (Keller 1966). To own a dwelling will also probably be a restricting factor for geographical mobility. The importance of the social environment in explaining variance in the rate of vandalism will be discussed further in the following section.

9.3 The Final Model and the Implications of the Results

The analysis of the empirical data has provided explanations for variance in the rate of vandalism in residential areas. It has been demonstrated that areas with high geographical mobility, a high percentage of non-modern dwellings and rented dwellings in multi-storey blocks show a positive relation with vandalism. An MCA analysis of these factors explains as much as 36% of the variance in the rate of vandalism (Table 8.4). This level of explanation is considered as acceptable for this kind of ecological data. The MCA analysis (Table 8.5) with control for the social status of the residential areas does not increase the explanation of variance in the rate of vandalism in any noticeable way.

The residential areas which have most of the reported cases of vandalism are located in the newly built, large scale, outer areas of the city and in its central residential areas (cf Map 3.1).

The large housing projects have often achieved a bad reputation because of problems which were already evident when they were newly built. These problems include vandalism, noisy residents, drunken persons, dirty entrances, slow and bureaucratic maintenance and repair of damaged objects and few activities for residents above the age of five years. All of these might result in an increased propensity to vandalize and to establish groups and gangs which loiter around. An atmosphere of anonymity is created. There is physical proximity but social distinction between the residents (Daun 1974b).

The distribution of people according to occupation and income also results in segregated residential areas. Kuper (1968) defines segregation as the institutionalized form of social distance manifested in physical separation. Castells (1977) goes somewhat further in his definition of segregation and includes in the concept the condition of hierarchy, where not only physical separation is present but where there has also emerged a difference in the social stratification of the area. Individuals might avoid some areas because they feel that they are below their own self-defined mental and social status. Similarly, individuals might choose not to live in a high status area because of the obvious risk of not being accepted by the neighbours and of living there with the feeling of being lowest in the status hierarchy (Keller 1966).

A low status reputation for a residential area can be very difficult to change. However, the reduced amount of new building and

the economic crisis of the 1980's might enable low-status residential areas to improve their status. It is assumed that residents who want to move have fewer areas to choose from. Further, the difficulties of finding work, the costs of transport etc. have made people more inclined to live near their work and service facilities. This might result in lower geographical mobility and one may suppose that residents who are prepared to stay a long time in the same area and dwelling will be more interested in taking responsibility for their area. It might also lead to demands for better maintenance of the area.

It has already been noted that an essential factor is the level of geographical mobility. Mobility shapes or causes disturbances in the establishment of social relations, contacts and social control. The geographical stability of residential areas is supposed to constitute the basis for establishing social control mechanisms, relations and contacts between the residents. Low geographical stability might reinforce anonymity among the residents, with residents possibly feeling that it is not worth the effort of getting to know their neighbours because of their anticipated short stay in the area.

A difference between high-rise block areas and one-family house areas might be the degree of social contact between the residents. In the one-family house areas it is easier to establish social contact and relations because the physical environment facilitates it through the gardens, where it is possible to meet and talk with neighbours over the fence. To establish social contacts in high-rise block areas, where it is also difficult to decide in which dwelling the various residents live, is more difficult and demands more of the residents. A fact which might be essential in establishing social contacts and relations among the residents is their own need for it. Daun (1974b) pointed out the fact that most people have other social relations and contacts outside their residential areas and these contacts were established before they moved to the present area. Residents who have no social relations and contacts with neighbours don't need to be isolated. Naturally some people are isolated but their isolation is not necessarily caused by the physical and the social environment.

Even if surveillance of an area is possible and can be carried out, children and adolescents know where adults can and cannot see them and when committing unlawful acts they choose places out of adult surveillance. In this case the high-rise housing projects commonly

supply a higher ratio of "dark" areas than do one-family house areas. Another disadvantage of the high-rise housing projects is that their anonymity makes it less likely that the offenders will be recognized.

"... the probability that a violation will occur at any specific time and place might be taken as a function of the convergence of likely offenders and suitable targets in the absence of capable guardians." (Cohen and Felson, 1979:590)

9.4 Implications of the Research

This study has indicated that it is possible to find factors which influence variance in the rate of vandalism in residential areas. The most important factor influencing the rate of vandalism, it is suggested, is geographical stability. It is also assumed that the geographical stability of residential areas influences and controls much of the social life in these areas. Mobility will also influence the social status of the areas as well as the wear of the physical environment. The anonymity of the residents might also provide the basis for the formation of subcultures and gang behaviour, creating an environment conducive to vandalism and other forms of lawbreaking.

The sociological factors have provided the strongest explanations for the occurrence of vandalism in residential areas. It has been demonstrated that the level of geographical mobility of the areas is of primary importance and this indicates possible paths for further sociological research into vandalism. Geographical stability provides the prerequisites for the social situation being able to direct the behaviour, traditions, values and norms of residents. One problem requiring attention is whether vandalism is a cause of geographical mobility or whether it is mobility which influences individuals to commit acts of vandalism. The importance of geographical stability has been demonstrated in many situations. For instance, it is significant in the school where the pupils' social situation and opportunities for acquiring knowledge can depend on stability factors. As the schools are often located in the children's home area the school situation is closely related to segregation factors within the residential areas.

One problem which needs to be considered and solved with suitable empirical data in future studies is that posed by the ecological data used and lies in the difficulties of deciding whether correlations show an aggregated individual effect or a group effect.

Finally it can be noted that this study has demonstrated the usefulness of studies with an ecological design in providing explanations of variance in the rate of vandalism (or of other traditional crimes) in residential areas.

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